DOCUMENT RESUME

ED 022 899 VT 005 433

By-Flitter, Hessel H.

NURSING IN THE SOUTH.

Southern Regional Education Board, Atlanta, Ga.
Spons Agency-Kellog (W.K.) Foundation, Battle Creek, Mich.
Pub Date Jan 68
Note-59p.
EDRS Price MF-$0.50 HC-$2.44
Descriptors-ACCREDITATION (INSTITUTIONS), ASSOCIATE DEGREES, BACHELORS DEGREES, DOCTORAL DEGREES, EMPLOYMENT PROJECTIONS, *EMPLOYMENT STATISTICS, *HEALTH OCCUPATIONS EDUCATION, HEALTH SERVICES, HOSPITALS, MANPOWER NEEDS, MASTERS DEGREES, NATIONAL SURVEYS, NEGRO STUDENTS, *NURSES, NURSES AIDES, NURSING, PRACTICAL NURSES, PROFESSIONAL EDUCATION, *SOUTHERN STATES, STAFF UTILIZATION, STUDENT ENROLLMENT, TEACHERS, TECHNICAL EDUCATION

National needs for 1975 have been projected at 450 nurses per 100,000 population. For the South to reach a goal of 300 would require that graduations be increased by 1975 to nearly four times the number graduated in 1966. Practical nurse programs have nearly doubled since 1960; in the last six years, the number of associate degree programs has increased from 15 to 69 and the number of baccalaureate programs from 48 to 57, while the number of hospital diploma programs has decreased from 218 to 179. In the South, however, student enrollments are lower, with little increase in Negro admissions, and there are proportionately fewer nationally accredited programs. Schools in the South have proportionately more vacancies in nurse faculty positions and faculty members tend to have less educational preparation for teaching; however, since 1960, there have been increases in the numbers of master's degree programs which prepare for teaching and administrative positions. Matters which warrant further consideration are relationship between national and regional goals and the specific needs of communities and states, conditions which increase withdrawal of nurses from active practice, adequacy of educational preparation for job responsibilities, utilization of nurses, barriers to recruitment, desirable balance of types of nursing education programs, and the preparation of nurses for teaching, administration and other top positions. (JK)

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SOUTHERN REGIONAL
EDUCATION BOARD

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U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

JANUARY 1968

SOUTHERN REGIONAL EDUCATION BOARD
130 Sixth Street, N. W.
Atlanta, Georgia 30313

FOREWORD

This publication describes briefly the supply of nurses in the South and their employment and compares the estimated future supply of nurses with current national goals. The report is addressed to persons who wish a concise picture of nursing in the South. It is hoped that this report will encourage legislators, educators, state officials and nurses to initiate and step-up efforts to plan for nursing education. Effective methods have been described in the SREB publication, *Statewide Planning for Nursing Education* by Lucile Petry Leone.

This publication is made possible by a grant from the W. K. Kellogg Foundation to the Southern Regional Education Board for a project in nursing education. We are indebted to Dr. Hessel H. Flitter, Professor and Assistant Dean, College of Nursing, University of Kentucky, for preparing this report. Dr. Flitter, who has been author or coauthor of four books on nursing education, brings a broad and distinguished professional background to the task of assessing the status of nursing in the South.

WINFRED L. GODWIN
Director
Southern Regional Education Board

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INTRODUCTION

Nursing in the South, as it appears in 1967, is analyzed in this publication from authoritative sources of information. No original data were collected. Information produced by various agencies and organizations was particularly helpful in offering facts about registered nurses, practical nurses, and nursing education.

The author is deeply indebted to the many organizations and agencies that contributed the information which made this publication possible. Special thanks are due to the American Hospital Association, the American Nurses' Association, the American Nursing Home Association, the National League for Nursing, the United States Public Health Service Division of Nursing and the United States Public Health Service Nursing Homes and Related Facilities Branch. Georgeen H. DeChow of Manatee Junior College and Ruth Neil Murry of the University of Tennessee reviewed the manuscript critically and offered many valuable suggestions. A special debt of gratitude is due Helen C. Belcher of the Southern Regional Education Board, whose guidance and patience were a necessary part of the many steps in the preparation of this publication.

The publication is divided into several sections. Section One presents national goals for nursing personnel and evidence of present and possible future shortages. Section Two acquaints the reader with the various fields of employment open to registered nurses and practical nurses. Section Three considers the present status of nursing education—its schools, its students, and its teachers. Section Four includes a summary and some questions for consideration by the reader.

National goals and aspirations for nursing are noted throughout, but it is self-evident that each state and local community in the South must and will want to plan for meeting its own health needs in light of its unique resources.

H. H. F.
Lexington, Kentucky
December 1, 1967

SECTION ONE

The Nursing Shortage

There is a critical shortage of nurses throughout the nation today, but nowhere is the shortage more pronounced than in the South.[1] Not only is the South's present need for more nurses at a critical stage, but the prospects for the future are even more alarming. Significant trends described in this report indicate that the situation in the South will get worse in the years immediately ahead, unless a concentrated effort to increase the nurse supply is launched now.

In 1966, an average of 319 nurses were employed per 100,000 population in the states outside the South. In the South, only 198 nurses were employed per 100,000 population.

The shortage is by no means a new development. A decade ago in 1956, the number of actively employed nurses per 100,000 population was 336 in the North Atlantic region, 277 in the West, and 254 in the Midwest. In the South, the ratio was below 200 nurses per 100,000 population.[2]

Great strides have been made in recent years in expanding the number of nurses in the South, but population growth and the rapid expansion of health facilities and programs have outstripped these hard-won gains. In 1956, 100,000 nurses were employed in the South. By 1966, this figure had increased to 118,000—but employers' demands for nurses continued to exceed the supply.

MEANINGS OF "SHORTAGE"

The shortage of nurses can be described in various ways. One way is to compare the number of nurses in the region with certain standards. These standards may be set in terms of the ratio of nurses to population and in terms of recommended educational preparation for specific positions. Recommendations or standards have been proposed for nurses by such organizations and groups as the National League for Nursing, the U. S. Public Health Service, and a special Consultant Group on Nursing appointed by the USPHS Surgeon General which made its report in 1963. Other authorities and nursing groups have proposed standards cited in this report.

Another way to describe a shortage is to determine the number of vacancies in positions, or the gaps between nurses employed and those employers would like to employ. Gaps may be described in terms of numbers, educational preparation, and other job qualifications. It should be borne in mind, however, that employers may not budget salaries for positions which are needed when they know that nurses can not be obtained. The number and qualifications of nurses which an employer would like to have may be understated if the nurses with this preparation or background are not available.

In public health and some other fields, distribution of nurses may constitute a shortage when a county or section of a community is without nurses to perform certain services. In hospitals, dramatic evidence of a shortage may occur when wards are closed because of lack of nurses to staff them.

GOALS FOR NURSES

In 1957, the National League for Nursing recommended a conservative ratio of 300 nurses per 100,000 population.[3] Six years later, taking the expansion of health facilities and programs and other factors into account, the Surgeon General's Consultant Group recommended a minimum goal of 375 nurses per 100,000 population by 1970. More recently, the Division of Nursing of the U. S. Public Health Service reassessed the situation and set a goal for 1975 of 450 RN's per 100,000 population. (See Figure 1.)

The major source of additional registered nurses has been and in all probability will continue to be the schools of nursing. In the South, there have been only slight increases in the number of students graduated from schools of nursing in the past decade.

The population increase in the same period has more than negated the effect of these graduates on the nurse:population ratio.

Figure 2 and Tables 1, 2, and 3[4] show the extent to which the South may be able to meet these goals. Tables 1, 2 and 3 represent the estimated supply of nurses in the South by 1975 when three different assumptions are made about the number of graduates from basic nursing programs which prepare registered nurses. In Table 1 the assumption is made that the number of graduates in 1967 will remain constant through 1974. If so, the ratio of nurses to population would drop to a new low of 185 nurses per 100,000 population.

If, however, one assumes an increase in graduations of about two percent each year (the rate of increase for the past ten years), Table 2 shows that by 1975, the nurse to population ratio would drop to 193 nurses per 100,000 population.

In Table 3, the assumption is made that the region could by 1975 meet a goal of 300 nurses to 100,000 population. This table shows that the number of graduations from schools of nursing would need to be increased each year until, by 1975, nearly four times as many nurses would be graduated as in 1966. The number of active RN's would need to be increased from the 1966 level of about 118,000 to over 200,000.

Figure 2 shows the ratios of nurses to population in 1975 as predicted under these three conditions, and how these ratios would compare with the three goals depicted in Figure 1. It seems improbable that the region could by 1975 meet even the goal set by the National League for Nursing in 1957, for 300 nurses to 100,000 population. And rapidly expanding use of health facilities indicates that the demand for nurses will probably increase beyond the degree of increase in the population. Federal funds are being made available to provide health services for the expanding older segment of the population. One corollary of the nursing shortage may be that future limits on health care services will be influenced more by the lack of available health service manpower than by the lack of financing.

This report does not purport to examine in detail the causes of the shortage of nurses in the South, although the data presented suggest many factors which may affect the supply of nurses. One factor stands out as of probable significance in predicting the extent to which goals for nurses will be met. This factor relates to the status of nursing as a career and nurses' salaries. Statistics show that the demand for highly skilled, professional manpower is increasing rapidly. Career opportunities for women are also expanding markedly, and many other highly skilled occupations seem more attractive to women because of the relatively higher salaries they pay.

Although there have been recent increases in salaries for nurses throughout the nation, one reason for the continuing shortage of nurses is the history of low salaries in the profession. It is only in the last six years that salaries have increased substantially. According to U. S. Department of Labor surveys, salaries for staff nurses in hospitals increased in all regions of the country in 1966. The average weekly salary for staff nurses in hospitals in the South was $77.50 in 1963, and $95.00 in 1966. Staff nurses in public health received a median weekly salary of $87.50 in 1960, and slightly below $110.00 in 1966. Occupational health nurses in the South increased their earnings from $78.50 per week in 1962 to about $110.00 per week in 1966.

These Labor Department surveys were made in large metropolitan areas, however, and may not reflect conditions in smaller cities where many of the registered nurses in the South are employed.

FIGURE 1

Three National Goals for Numbers of Nurses Needed Per 100,000 Population.

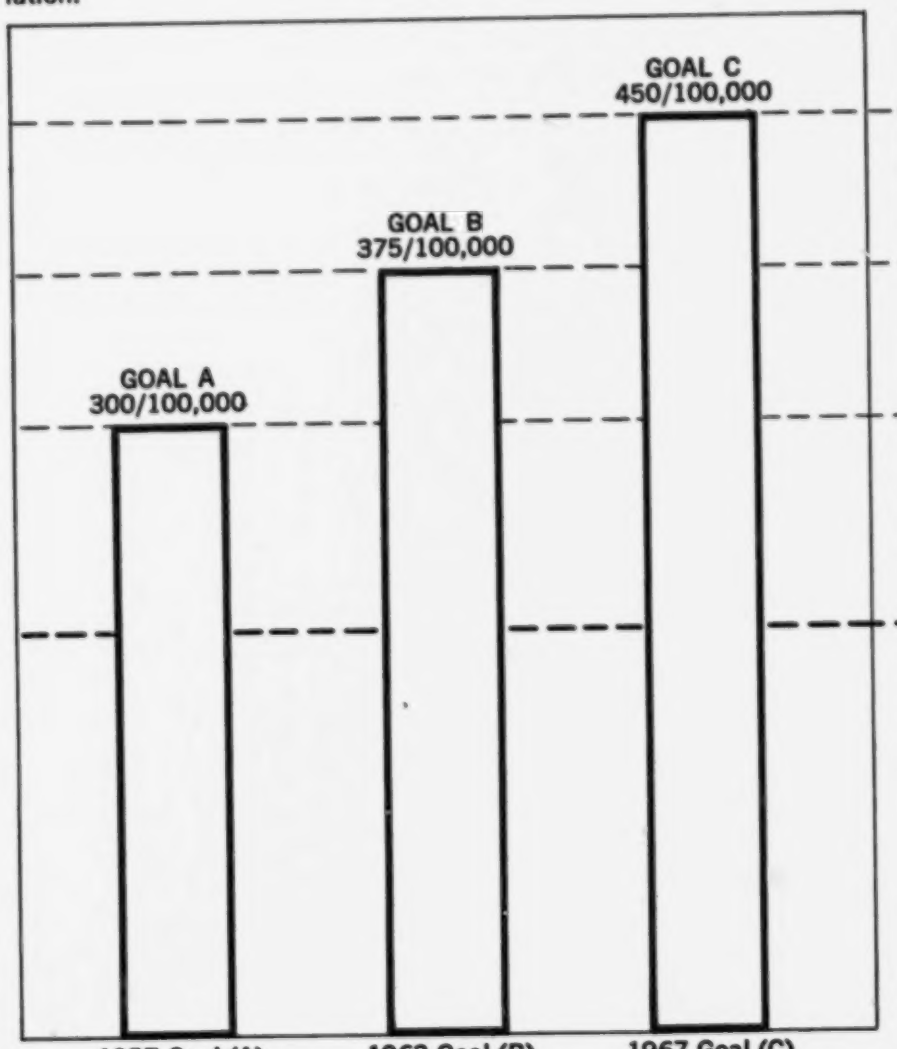


FIGURE 2

Nurses Per 100,000 Population That Can Be Expected in the South by 1975 Under Three Conditions

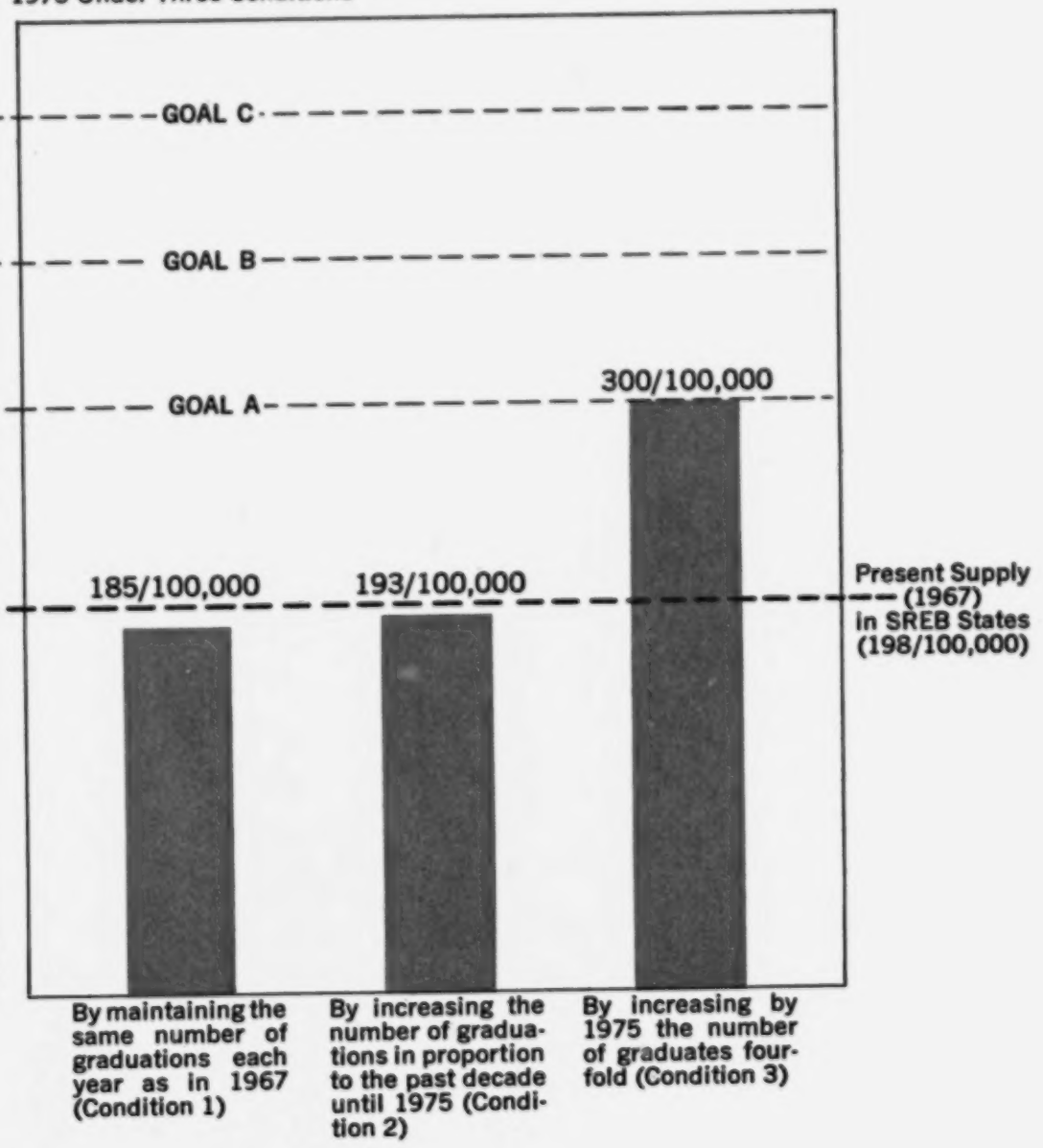

GOAL C
GOAL B
GOAL A
300/100,000
185/100,000
193/100,000
Present Supply (1967) in SREB States (198/100,000)
By maintaining the same number of graduations each year as in 1967 (Condition 1)
By increasing the number of graduations in proportion to the past decade until 1975 (Condition 2)
By increasing by 1975 the number of graduates four-fold (Condition 3)

TABLE 1—Projection A

Estimated supply of active professional nurses in the South in 1975 based on a *constant* number of graduations from basic programs of professional nursing.

Year	Estimated number of nurses active	Nurses per 100,000 population	Estimated number of graduations	Estimated annual net attrition (4.7%)*	Net additions to nurse supply
1962	114,112	215	5,838†	5,363	475
1963	114,587		6,235†	5,386	849
1964	115,436		6,605†	5,425	1,180
1965	116,616		6,681†	5,481	1,200
1966	117,816	198	6,727†	5,537	1,190
1967	119,006		6,727	5,693	1,034
1968	120,040		6,727	5,642	1,085
1969	121,125		6,727	5,693	1,034
1970	122,159	193	6,727	5,742	985
1971	123,144		6,727	5,788	939
1972	124,083		6,727	5,832	895
1973	124,978		6,727	5,874	853
1974	125,831		6,727	5,914	813
1975	126,644	185			

**Attrition rate computed for the five-year period, 1957-1962.*

†Actual graduations reported in the annual publication, State-Approved Schools of Nursing—RN *(New York, National League for Nursing, 1962-66).*

TABLE 2—Projection B

Estimated supply of active professional nurses in the South in 1975 based on a *slight increase* in graduations conforming to the trend of the 10-year period ending 1964-1965.

Year	Estimated number of nurses active	Nurses per 100,000 population	Estimated number of graduations	Estimated annual net attrition (4.7%)*	Net additions to nurse supply
1962	114,112	215	5,838†	5,363	475
1963	114,587		6,235†	5,386	849
1964	115,436		6,605†	5,425	1,180
1965	116,616		6,681†	5,481	1,200
1966	117,816	198	6,727†	5,537	1,190
1967	119,006		6,825	5,693	1,132
1968	120,138		6,950	5,647	1,303
1969	121,441		7,100	5,708	1,392
1970	122,833	194	7,275	5,773	1,502
1971	124,335		7,475	5,844	1,631
1972	125,996		7,685	5,922	1,763
1973	127,759		7,905	6,005	1,900
1974	129,659		8,130	6,094	2,036
1975	131,695	193			

**Attrition rate computed for the five-year period, 1957-1962.*

†Actual graduations reported in the annual publication, State-Approved Schools of Nursing—RN *(New York, National League for Nursing, 1962-66).*

TABLE 3—Projection C

Estimated number of graduations needed to approach a ratio of 300 nurses per 100,000 population in the South by 1975.

Year	Estimated number of nurses active	Nurses per 100,000 population	Estimated number of graduations	Estimated annual net attrition (4.7%)*	Net additions to nurse supply
1962	114,112	215	5,838†	5,363	475
1963	114,587		6,235†	5,386	849
1964	115,436		6,605†	5,425	1,180
1965	116,616		6,681†	5,481	1,200
1966	117,816	198	6,727†	5,537	1,190
1967	119,006		10,452	5,593	4,859
1968	123,865		13,369	5,822	7,547
1969	131,412		14,834	6,176	8,658
1970	140,070	221	15,751	6,583	9,168
1971	150,217		16,824	7,060	9,764
1972	159,981		21,437	7,519	13,918
1973	173,899		23,303	8,173	15,130
1974	189,029		24,980	8,884	16,096
1975	205,125	300			

**Attrition rate computed for the five-year period, 1957-1962.*

†Actual graduations reported in the annual publication, State-Approved Schools of Nursing—RN *(New York, National League for Nursing, 1962-66).*

SUPPLY OF NURSES IN STATES

The nursing situation in the South is severe in contrast to the shortage throughout the nation. But individual states in the South are in even more desperate straits than the region's overall average indicates. In 1962, the nurse:population ratio for the South averaged 215 nurses per 100,000 population. Yet Arkansas had only 121 nurses per 100,000 population—just slightly more than half of the regional average. Of the 15 Southern states, only five exceeded the regional average. Only one of these states, Florida, surpassed the national average with 309 nurses per 100,000 population. (See Figure 3.)

The economic strength of a state may indicate with some accuracy whether that state is above or below average in nurse supply. Generally, the higher the degree of economic development, the higher the nurse:population ratio. (See Table 4.) The 1962 survey of nurses indicated that all but one of the Southern states were below the 1957 national goal of 300 nurses per 100,000 population. Similarly, all but one of the 15 Southern states ranked below the U. S. median in per capita income.

PROGRAMS TO PREPARE NURSES AND PRACTICAL NURSES

This report will deal primarily with registered nurses. These nurses are prepared for beginning practice through three types of programs: diploma programs administered and supported by hospitals, generally three years in length; associate degree programs administered by junior or community colleges or, less often, by senior colleges or universities, usually two years in length; and bachelor's degree programs administered by senior colleges or universities, four to five years in length.[5]

Each of these types of program must be approved by the state board of nursing in the state in order for graduates of these programs to be eligible to take the state licensing examination. Upon successful completion of this examination, the nurse is

TABLE 4

Rank order of SREB states by ratio of registered nurses to hospital patients and by per capita income, 1965.

Geographic location	Rank by ratio of registered nurses to hospital patients	Rank by per capita income, 1965
Florida	1	2
Kentucky	2	8
Maryland	3	1
West Virginia	4	10
North Carolina	5	9
Texas	6	4
Oklahoma	7	5
Virginia	8	3
Louisiana	9	7
South Carolina	10	13
Alabama	11	12
Georgia	12	6
Tennessee	13	11
Arkansas	14	14
Mississippi	15	15

Source: American Hospital Association—U. S. Public Health Service, Hospital Personnel Survey, unpublished data, 1966; U. S. Department of Commerce, Pocket Data Book, *USA, 1967, p. 189.*

registered in that state and entitled to be called an "RN." In this report, the term "nurse" refers to registered nurses.

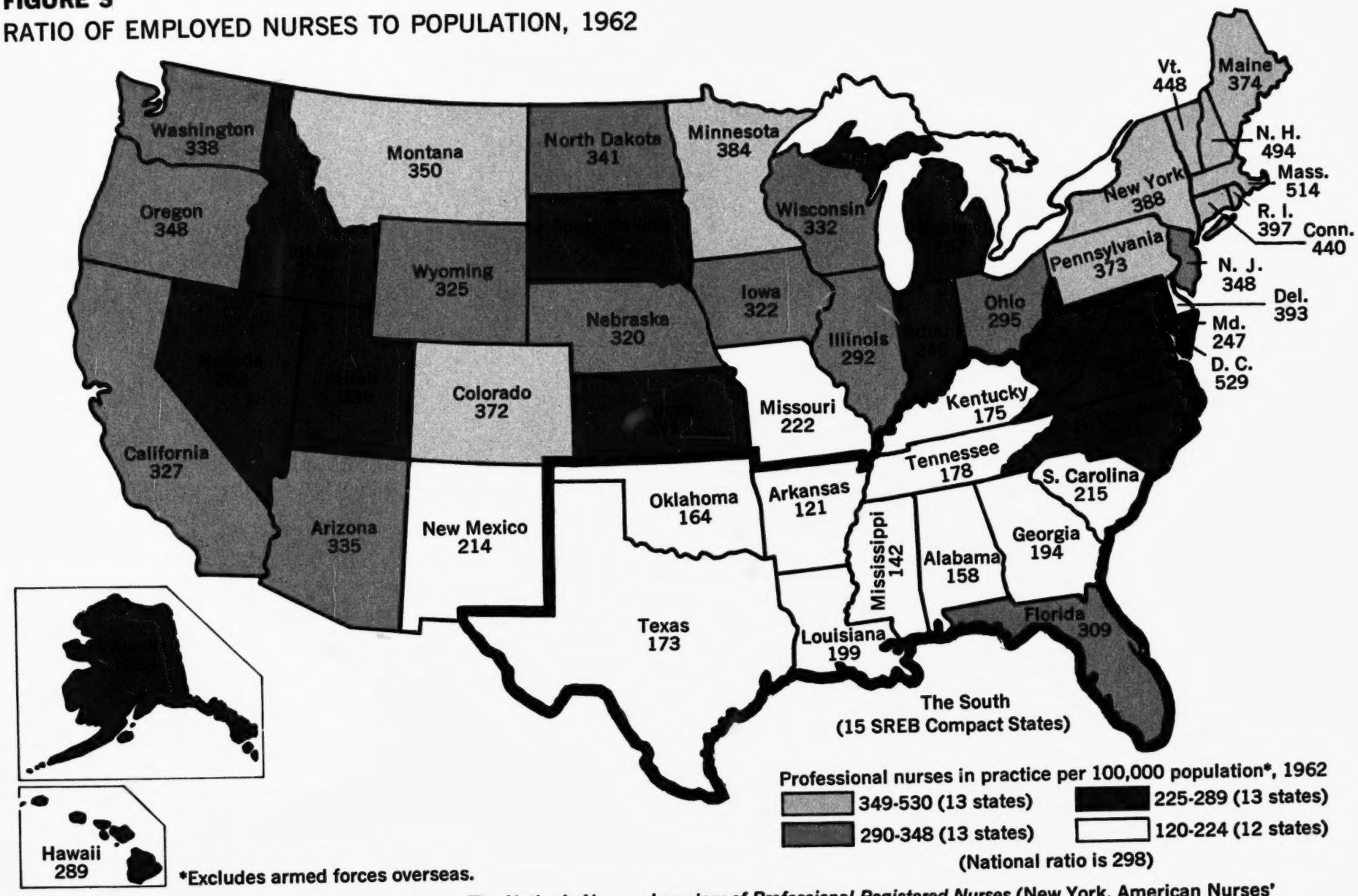
Because of the impact of licensed practical nurses (LPN's) on the supply of nursing personnel, especially in the South, this report also includes some statistics on practical nursing programs. These programs are generally one year in length, and are administered mainly by vocational and technical schools. The schools are approved by the state, and their graduates are eligible to take the state licensing examination and, upon successful completion of this, to become licensed in the state as practical or vocational nurses.

SUMMARY

The South falls far short of the rest of the nation in terms of the number of its nurses compared to its population. This shortage is an historical and chronic one escalated by the increase in population and expanding health programs. The gap between the current supply of nurses in the South and the most conservative national goal proposed a decade ago is great. It is not at all certain that the South can reach this conservative goal by 1975, even if it were to begin now with concerted efforts to increase the number of nurses in the region.

FIGURE 3

RATIO OF EMPLOYED NURSES TO POPULATION, 1962



*Excludes armed forces overseas.

Source: Eleanor D. Marshall and Evelyn B. Moses, *The Nation's Nurses, Inventory of Professional Registered Nurses* (New York, American Nurses' Association, 1965), p. 8. Used by permission.

SECTION TWO

Employment of Nurses

There are six general categories of agencies that employ registered nurses: hospitals, nursing homes, and other related institutions; nursing education programs, such as schools of nursing; occupational health units, such as those in industry; public health agencies and public schools; private duty and doctors' and dentists' office units; and other miscellaneous groups. The table below shows the percentage of nurses employed in these various agencies in 1962.

FIELD OF EMPLOYMENT	PERCENTAGE OF EMPLOYED REGISTERED NURSES	
	United States	SREB States
Hospitals and other related institutions	63.0	61.1
Nursing education programs	3.1	3.2
Occupational health	3.3	2.8
Public health and school nursing	7.6	7.6
Private duty, office nursing, and other	20.8	22.5
Field not reported	2.2	2.8

The pattern of employment of nurses in SREB states closely parallels that in the United States.

Tables 5 and 6 give more complete descriptions of nurse employment by states and by region.

HOSPITALS

Hospitals are the largest employers of nurses in the United States and in the South. They employ more than 60 percent of the nurses in the South in a variety of positions—as administrators, supervisors, head nurses, and general duty or staff nurses. (See Table 6.)

Between 1960 and 1966, there was considerable increase in the number of hospitals in the nation and in the South. In both 1960 and 1965, 33 percent of the nation's hospitals were located in the South. Southern hospitals admitted 1.5 million more patients in 1965 than in 1960, and accounted for a slightly higher percentage of all hospital admissions in the nation. The daily average number of patients in hospitals in the South also expanded substantially. (See Table 7.)

This increased expansion of hospitals to meet increased public demands for services was accompanied by a growing need for increasing numbers of nurses. Although it might be expected that the demand for more nurses would mean that more staff nurses would be employed to give patient care, this has not been the trend in the South. Southern hospitals have met the demand for increased nursing services by employing a higher percentage of nurses in administrative and supervisory positions and a lower percentage in staff or general duty positions than in the nation as a whole. (See Table 8.)

The trend in the South has been to meet the shortage of RN's by employing more licensed practical nurses (LPN's) and nursing aides. In 1964, hospitals across the nation employed three RN's for each LPN.[1] In the South, hospitals employed 78,000 RN's and 46,000 LPN's—which represented a ratio of 1.7 RN's to one LPN. In 1966, hospitals in the South employed 124,000 nursing aides, a number which equaled the number of RN's and LPN's combined. (See Tables 9 and 10.)

Hospital administrators surveyed in 1966 indicated a need for 25 percent more—or 22,000 more—RN's, 12,000 more LPN's, and 16,000 more nursing aides. (See Table 10.) To meet these needs, the South would have to have employed 100,000 RN's, 60,000 LPN's, and 140,000 nursing aides in hospitals alone.

TABLE 5

Employed registered professional nurses by field of practice, 1962.

Geographic location	Total number of nurses	Hospital and related institutions	Public health and school nursing	Occupational health	Nursing education	Private duty	Office nursing	Other	Unknown
United States	532,118	335,404	40,687	17,569	16,294	64,155	43,558	2,496	11,955
SREB states	109,769	67,102	8,299	3,089	3,509	14,734	9,310	695	3,031
SREB states as a percentage of U. S.	20.6	20.0	20.4	17.6	21.5	23.0	21.4	28.0	25.3
Alabama	5,047	3,085	328	201	180	464	325	17	447
Arkansas	2,194	1,493	156	31	93	193	189	12	27
Florida	14,109	8,462	805	230	234	2,491	1,383	185	319
Georgia	7,816	4,369	706	232	242	1,178	594	219	276
Kentucky	5,317	3,728	432	175	202	391	314	18	57
Louisiana	6,594	4,124	360	161	205	984	553	14	193
Maryland	7,779	4,856	819	248	325	962	423	34	112
Mississippi	3,141	1,950	290	68	80	389	300	5	59
North Carolina	10,793	6,874	689	246	420	1,347	1,071	11	135
Oklahoma	3,948	2,460	312	91	125	434	384	8	134
South Carolina	5,184	2,986	369	185	162	799	560	21	102
Tennessee	6,324	4,031	453	259	259	790	395	21	116
Texas	17,222	9,979	1,560	478	484	2,175	1,711	84	751
Virginia	9,886	5,695	802	285	356	1,619	820	41	268
West Virginia	4,415	3,010	218	199	142	518	288	5	35

Source: American Nurses' Association, The Nation's Nurses, *1965, p. 29.*

TABLE 6

Percentage distribution of employed registered nurses by field of employment, 1962.

Geographic location	Total	Hospital and related institutions	Public Health and school nursing	Nursing education	Occupational health	Private duty, office nursing, and others	Field not specified
United States	100.0	63.0	7.6	3.1	3.3	20.8	2.2
Range, SREB states	x	55.9 – 70.1	5.0 – 10.6	1.7 – 4.3	1.4 – 4.5	13.5 – 28.7	0.8 – 8.9
Alabama	100.0	61.1	6.5	3.6	4.0	15.9	8.9
Arkansas	100.0	68.0	7.1	4.3	1.4	18.0	1.2
Florida	100.0	60.0	5.7	1.7	1.6	28.7	2.3
Georgia	100.0	55.9	9.0	3.1	3.0	25.5	3.5
Kentucky	100.0	70.1	8.2	3.8	3.3	13.5	1.1
Louisiana	100.0	62.5	5.5	3.1	2.5	23.5	2.9
Maryland	100.0	62.4	10.6	4.2	3.2	18.2	1.4
Mississippi	100.0	62.1	9.2	2.5	2.2	22.1	1.9
North Carolina	100.0	63.7	6.4	3.9	2.3	22.5	1.2
Oklahoma	100.0	62.3	7.9	3.2	2.3	20.9	3.4
South Carolina	100.0	57.6	7.1	3.1	3.6	26.6	2.0
Tennessee	100.0	63.8	7.2	4.1	4.1	19.0	1.8
Texas	100.0	57.9	9.1	2.8	2.8	23.0	4.4
Virginia	100.0	57.6	8.1	3.6	2.9	25.1	2.7
West Virginia	100.0	68.2	5.0	3.2	4.5	18.3	0.8

Source: American Nurses' Association, The Nation's Nurses, *1965, p. 29.*

TABLE 7

Hospital statistics, 1960 and 1965.

Geographic location	Number of hospitals		Number of admissions		Average daily census	
	1960	1965	1960	1965	1960	1965
United States	6,876	7,123	25,027,152	28,811,925	1,401,873	1,402,625
SREB states	2,272	2,332	7,470,914	8,803,904	340,916	358,052
SREB states as a percentage of U. S.	33.0	32.7	29.9	30.6	24.3	25.5
Alabama	130	144	406,094	494,075	20,715	23,094
Arkansas	80	84	233,694	287,067	12,562	11,059
Florida	162	173	669,530	860,768	24,985	29,768
Georgia	142	146	532,946	633,593	25,622	27,929
Kentucky	132	137	421,557	494,737	19,326	16,199
Louisiana	139	146	521,682	581,360	19,543	20,520
Maryland	79	86	340,933	448,843	26,929	28,254
Mississippi	106	108	275,435	317,432	11,528	12,486
North Carolina	174	167	679,613	742,104	27,893	29,527
Oklahoma	132	139	319,181	354,230	15,843	13,905
South Carolina	80	78	314,337	361,598	16,177	17,126
Tennessee	154	150	518,775	627,987	24,672	26,460
Texas	550	556	1,425,383	1,669,646	52,509	55,760
Virginia	119	127	503,858	596,280	29,528	32,546
West Virginia	93	91	307,896	334,184	13,084	13,419

Source: American Hospital Association, Hospitals: Guide Issue, *1961 and 1966.*

TABLE 8

Percentage of registered nurses employed in hospitals in the United States and the SREB states by type of position, 1962.

Type of position	United States	SREB states
Administrator or assistant	3.6	3.8
Consultant	0.2	0.4
Supervisor or assistant	12.5	15.0
Head nurse	18.2	18.9
General duty or staff nurse	59.4	54.8
Other	6.1	7.1

Source: American Nurses' Association, The Nation's Nurses, *1965, p. 30.*

TABLE 9

Percentage distribution of nursing personnel in hospitals, 1966.

Geographic location	Total	Registered nurses	Licensed practical nurses	Nursing aides
SREB states	100.0	31.3	18.7	50.0
Alabama	100.0	30.2	19.4	50.4
Arkansas	100.0	27.1	28.0	44.9
Florida	100.0	38.0	16.2	45.8
Georgia	100.0	33.4	16.6	50.0
Kentucky	100.0	32.2	14.0	53.8
Louisiana	100.0	27.1	16.0	56.9
Maryland	100.0	35.1	14.8	50.1
Mississippi	100.0	27.0	19.3	53.7
North Carolina	100.0	36.7	14.1	49.2
Oklahoma	100.0	27.4	14.9	57.7
South Carolina	100.0	34.6	14.6	50.8
Tennessee	100.0	25.8	23.3	50.9
Texas	100.0	27.6	27.5	44.9
Virginia	100.0	32.4	15.3	52.3
West Virginia	100.0	34.0	15.1	50.9

Source: American Hospital Association—U. S. Public Health Service, Hospital Personnel Survey, unpublished data, 1966.

TABLE 10

Estimated number of and additional needs for registered nurses, licensed practical nurses, and nursing aides in hospitals, 1966.

Geographic location	Registered nurses		Licensed practical nurses		Nursing aides	
	Estimated number	Additional needs for optimum care	Estimated number	Additional needs for optimum care	Estimated number	Additional needs for optimum care
SREB states	78,254	21,175	46,660	12,435	123,988	16,342
Alabama	4,099	1,105	2,641	631	6,846	923
Arkansas	1,865	420	1,922	273	3,086	208
Florida	10,293	1,754	4,388	1,306	12,393	943
Georgia	4,792	1,921	2,387	531	7,196	1,630
Kentucky	4,382	829	1,894	1,010	7,332	630
Louisiana	3,829	1,276	2,250	785	8,013	488
Maryland	6,767	1,517	2,852	699	9,655	1,335
Mississippi	2,070	671	1,487	538	4,133	1,642
North Carolina	6,993	1,564	2,694	652	9,371	765
Oklahoma	3,108	731	1,695	334	6,551	406
South Carolina	3,193	1,020	1,349	416	4,683	754
Tennessee	4,473	1,608	4,040	923	8,814	1,305
Texas	12,511	4,614	12,484	3,143	20,335	3,178
Virginia	6,687	1,235	3,161	750	10,806	1,359
West Virginia	3,192	910	1,416	444	4,774	776

Source: American Hospital Association—U. S. Public Health Service, Hospital Personnel Survey, unpublished data, 1966.

NURSING HOMES

Legislation providing for medical care for the aged, the growing emphasis on care for the aged and chronically ill, and the rising life expectancy of Americans springing from new advances in medicine—all these factors have combined to favor the recent rapid increase in the construction and use of nursing homes. Many of these institutions are changing from resident institutions for the aged into extended-care hospitals for convalescing patients as well as long-term patients.

In 1967, there were more than 19,000 nursing homes. Some 13,000 of these, with a total of 600,000 beds, were extended hospital care facilities. In May of 1967, 4,517—or 23.6 percent of the nursing homes in the nation—were located in the South. They represented 22.3 percent of all the extended hospital care beds in the nation.[2] (See Table 11.)

Nursing homes have grown in number at the rate of 12 percent each year and are likely to continue to increase, with an increasing demand for the services of nurses, practical nurses, and nursing aides.

PUBLIC HEALTH NURSING AGENCIES

After hospitals and related institutions such as nursing homes, public health agencies employ the largest number of nurses both in the nation and in the South. The percentage of active registered nurses employed by public health agencies rose from 6.4 percent in 1960 to 6.5 percent in 1966. As in hospitals, nurses are employed in public health nursing as administrators, consultants, supervisors, and staff nurses.

There are two general types of public health nursing agencies: those supported by private or voluntary funds, such as a visiting nurse service, and those supported by public taxes and usually referred to as official agencies.

TABLE 11

Nursing home facilities in the United States and SREB states, 1967.

Geographic location	Total	
	Facilities	Beds
United States	19,112	838,949
SREB states	4,517	189,494
Percentage of United States	23.6	22.3
Alabama	182	9,322
Arkansas	186	10,612
Florida	328	20,522
Georgia	210	11,252
Kentucky	311	12,402
Louisiana	197	10,464
Maryland	213	11,423
Mississippi	81	2,874
North Carolina	747	14,068
Oklahoma	470	17,886
South Carolina	89	4,064
Tennessee	231	7,841
Texas	909	44,156
Virginia	315	11,100
West Virginia	48	1,508

Source: U. S. Public Health Service, Nursing Homes and Related Facilities Branch, unpublished data, 1967.

In 1966, 17 percent of the nation's public health agencies were located in the South. They were staffed by 24 percent of the nation's public health nursing administrators and 22 percent of the nation's public health staff nurses. (See Tables 12 and 13.)

The pattern of public health nursing in the South is somewhat different from that of the rest of the nation in that the voluntary agencies play a much smaller role. Less than six percent of the nation's visiting nurse service agencies were in the South.

In contrast, 36 percent of the nation's local official public health agencies were located in the South, and no Southern state had fewer than 24 of these agencies. (See Table 12.) The wide variation among the states—the number of agencies ranges from 24 in Maryland to 116 in Kentucky—may be because local official agencies are often established by county lines. In nine of the 15 Southern states, the number of local official agencies equals or is very close to the number of counties in that state.

There has been a trend nationally toward the establishment of combination services which combine official agency functions with home visits. Almost half of those in the nation are located in the South and, of these, one-third are in Florida.

TABLE 12

Number of state and local agencies employing nurses for public health work, January 1, 1966.

Geographic location	Total agencies	State		Local					
		Official	Non-official	Official	Visiting nurse service	Other non-official	Combination service	Board of education	Established home care
United States	8,664	84	8	2,503	651	107	85	5,209	17
SREB states	1,452	26	2	905	35	13	36	433	2
SREB states as a percentage of U. S.	16.8	31.0	25.0	36.2	5.4	12.2	42.4	8.3	11.8
Alabama	79	4	—	67	2	1	—	5	—
Arkansas	79	2	—	75	1	—	—	1	—
Florida	79	2	—	40	8	—	28	1	—
Georgia	59	1	—	52	1	—	1	4	—
Kentucky	131	3	—	116	1	5	—	6	—
Louisiana	71	1	—	64	2	1	—	3	—
Maryland	32	1	—	24	1	—	—	5	1
Mississippi	78	1	—	76	—	—	—	—	1
North Carolina	83	1	—	80	—	—	2	—	—
Oklahoma	78	2	2	51	—	—	3	20	—
South Carolina	65	1	—	48	2	—	—	14	—
Tennessee	56	1	—	45	1	3	—	6	—
Texas	415	2	—	71	3	2	—	337	—
Virginia	80	1	—	47	12	—	1	19	—
West Virginia	67	3	—	49	1	1	1	12	—

Source: U. S. Public Health Service, Division of Nursing, unpublished data, 1967.

TABLE 13

Number of nurses employed full-time for public health work, by type of position—1962 and 1966.

Geographic location	Totals		Administrators, consultants, and supervisors		Staff nurses	
	1962	1966*	1962	1966	1962	1966*
United States	32,550	37,760	3,850	4,598	28,700	33,162
SREB states	6,945	8,501	747	1,091	6,198	7,410
SREB states as a percentage of U. S.	21.3	22.5	19.4	23.7	21.6	22.4
Alabama	248	306	26	59	222	247
Arkansas	155	188	18	22	137	166
Florida	691	906	95	182	596	724
Georgia	641	760	76	106	565	654
Kentucky	389	406	48	54	341	352
Louisiana	321	352	47	56	274	296
Maryland	638	803	85	104	553	699
Mississippi	266	255	26	25	240	230
North Carolina	560	651	49	59	511	592
Oklahoma	243	327	26	42	217	285
South Carolina	290	316	40	53	250	263
Tennessee	363	497	35	57	328	440
Texas	1,343	1,770	81	155	1,262	1,615
Virginia	614	755	73	84	541	671
West Virginia	183	209	22	33	161	176

Sources: American Nurses' Association, Facts About Nursing, *1965, p. 34; U. S. Public Health Service, Division of Nursing, unpublished data, 1967.*
**Includes 867 licensed practical nurses in the United States and 156 in the South.*

It would appear that where a choice had to be made, greater emphasis has been given to improving the preparation of nurses in leadership positions in public health nursing in the South than in strengthening the preparation of staff nurses. State directors of public health in the Southern states reported in 1966 that 75 percent of their administrative staffs had approved preparation for public health nursing. (See Table 14.)

Eight Southern states surpassed the national average in this field in the percentage of administrative nurses with approved educational preparation for their jobs in public health nursing.

TABLE 14

Percentage of full-time administrative and staff nurses in public health work with approved educational preparation, 1966.

Geographic location	Administrative	Staff
United States	77.3	36.4
SREB states	75.3	20.5
Alabama	52.5	17.5
Arkansas	90.5	21.7
Florida	70.3	30.7
Georgia	87.7	13.6
Kentucky	72.2	13.9
Louisiana	58.9	24.2
Maryland	92.3	31.5
Mississippi	84.0	3.5
North Carolina	96.6	26.7
Oklahoma	77.5	18.9
South Carolina	81.1	15.4
Tennessee	84.2	27.9
Texas	69.7	28.2
Virginia	63.1	27.7
West Virginia	48.5	6.2

Source: U. S. Public Health Service, Division of Nursing, unpub. data, 1967.

In contrast, only slightly more than 20 percent of the staff nurses had the desired preparation.

The number of full-time nurses providing public health nursing service per 100,000 population is 18.6 in the United States and 14.3 in the South (ranging from 8.7 in the lowest state to 21.9 in the highest). There has been an upward trend since 1964 in the ratio of full-time public health nurses to population both in the South and in all of the Southern states except one. (See Table 15.) Public health agencies reported more unfilled staff positions in 1966 than in 1965.[3]

TABLE 15

Full-time public health nurse ratios per 100,000 population, 1964 and 1966.

Geographic location	1964	1966
United States	18.3	18.6
Alabama	8.0	8.7
Arkansas	8.9	9.6
Florida	13.2	15.2
Georgia	16.3	16.5
Kentucky	12.0	12.4
Louisiana	9.1	9.6
Maryland	20.2	21.9
Mississippi	11.7	11.0
North Carolina	12.3	13.0
Oklahoma	11.0	12.9
South Carolina	12.1	12.1
Tennessee	11.0	11.9
Texas	14.4	16.1
Virginia	15.1	16.4
West Virginia	11.2	11.6

Source: American Nurses' Association, Facts About Nursing, *1967, p. 33.*

Recently, public health nursing agencies have attempted to supplement the services provided by RN's by using LPN's. In addition, home health aides trained on the job to provide supportive services to patients in their homes have increased in numbers across the nation from about 500 in 1956 to more than 6,000 in 1965.

INDUSTRIES

In 1966, it was estimated that three percent of the RN's in the nation and in the South were employed as occupational health nurses in industries. This represents 18,000 of the nation's 621,000 RN's and 3,400 of the South's 117,800 RN's. These occupational health nurses, employed by manufacturing and industrial plants, perform a variety of activities ranging from preventive health programs to first aid and record-keeping.

One authority in occupational health nursing recommends one nurse for every 500 employees up to 2,000 employees and an additional nurse for every additional 1,000 employees.[4] In 1966, the 18,000 nurses employed by industrial plants across the nation served 70 million workers, for a nurse:worker ratio of 1:3,888. In the South, 3,400 nurses served 16 million workers, for a nurse:worker ratio of 1:4,288.

Although no precise data are available to compare the educational preparation of occupational health nurses in the South with those in other regions of the nation, the national trend has been upward. In 1962, about four percent of the occupational health nurses in the nation held a bachelor's degree. By 1964, this proportion had climbed to six percent; by 1966, it had passed seven percent.

PRIVATE DUTY NURSING

Private duty nurses are usually employed to care for one patient on a continuing full-time basis for a specified tour of duty. Private duty nurses are usually employed by the patient or his family. As the overall shortage of nurses for institutional positions increased, the number of nurses employed in private duty decreased as most of them took positions in hospitals. Nationally, the proportion of nurses employed in private duty decreased from 14 percent in 1960 to 11 percent in 1966.

Figures reported by nurses' registries, who arrange employment for most private duty nursing, substantiate the downward trend of employment in this field. In 1957, 148 registries reported that 30,378 RN's were listed with them. By 1965, 138 registries reported 10,000 fewer RN's than were listed with them in 1957. The proportion of RN's employed in private duty nursing in the South has decreased at about the same rate as in the nation as a whole. In 1962, 21 percent of all RN's employed throughout the nation were located in the South, and 23 percent of all RN's employed in private duty nursing were working in the South. Estimates show that the number of private duty nurses in the South is decreasing proportionately to the decrease across the nation. However, registries serving LPN's, which numbered 107 in 1957 and 109 in 1966, reported calls for 75,000 LPN's in 1957 and over 102,000 LPN's in 1966. More than 50 percent of the calls were reported in Southern registries.

OTHER EMPLOYMENT FIELDS

Nurses are also employed in physician's and dentist's offices; by national, regional, state, and local professional and community organizations as consultants and field workers; and as faculty members in nursing education programs. This last group will be discussed in the next section. Statistics on the number of nurses employed by physicians, dentists, and community organizations are not sufficiently comparable from year to year to make valid conclusions. However, the current data on nurses employed by physicians and dentists seem to indicate that the eight percent so employed in 1962 has remained fairly constant.

SECTION THREE

Nursing Education

The foregoing sections described the overall picture of nursing in the South and the employment patterns of nurses. This section deals with the source of supply of nurses for the future—the various types of educational programs which prepare nurses for beginning and advanced positions. Included is information about practical nurse programs, three types of programs which prepare nurses for beginning practice and licensure as RN's, and programs to prepare nurses for teaching and administrative positions. For each of these programs, information is included about the programs, students, and faculty members.

The period between 1960 and 1966 was characterized by changes in the number and administrative control of schools that prepared nurses. Vocational and technical schools that prepared practical nurses and college-sponsored nursing programs leading to associate and bachelor's degrees showed an impressive increase in number and enrollment. During the same time, the number of hospital (diploma) schools of nursing decreased.

The nursing shortage in the South is not only a shortage of number; it is also a shortage in terms of the educational preparation of nurses for leadership positions in the profession. Many nurses in the higher echelons today do not have preparation commensurate with the types of positions they hold and which is recommended for certain positions.

RECOMMENDED PREPARATION FOR NURSES

Recommendations for the type of preparation RN's need for various types of positions come from the profession itself. The nursing profession considers the master's degree a requirement for employment as a faculty member in a school of nursing. The U. S. Public Health Service Surgeon General's Consultant Group in 1963 recommended that the following national goals for the educational preparation of nurses be achieved by 1970: 23.5 percent of the nation's RN's should hold a bachelor's degree and 11.8 percent should possess the master's or a higher degree.[1] These recommendations were intended to insure an adequate supply of nurses with preparation needed for advanced positions in nursing, teaching, and administration.

Some progress has been made toward increasing the percentage of nurses holding these degrees. Nationally, the percentage of RN's with the bachelor's degree has increased from 7.9 percent in 1962 to 10.4 percent in 1966. This rate of increase is still not great enough to reach the 1970 goal of 23.5 percent, however. The proportion with the master's degree or a higher degree has risen from 2.1 percent in 1962 to 2.5 percent in 1966.[2] But at this rate the recommended goal of 11.8 percent will not be reached by 1970.

Precise data for the South are not available. But even if the South were to parallel the nation in educational preparation of RN's, the 1970 goals recommended by the Surgeon General's group seem impossible to attain in just three years.

PRACTICAL NURSE PROGRAMS

A large amount of the nursing services obtained by citizens in the South is given by practical or vocational nurses. Practical nurses are qualified to give care to the sick in hospitals and nursing homes under the orders of a physician or the supervision of a registered nurse. Practical nurses generally receive their education in one-year programs administered by vocational and technical schools, hospitals, junior colleges, high schools, and independent agencies. Each program is approved by a state agency and only graduates of state-approved programs are eligible to take the state licensing examination. All 50 states have some provisions for licensing practical nurses, and 15 have legislation which requires licensure of all persons employed as practical nurses.

Federal legislation which provided funds for educational programs, such as the Manpower Development and Training Act of 1962 and the Vocational Education Act of 1963, has influenced the rapid expansion of programs preparing practical nurses.

In the period from 1960 to 1966, the number of programs preparing practical nurses in the South and in the nation almost doubled, from 661 to 1,081. The South had 44.3 percent of these programs in 1960 and 42.8 percent of them in 1966.

Although the South has more programs proportionately than the rest of the nation, enrollment in these programs is smaller. (See Table 16.) With nearly half of the nation's practical nurse programs, the South enrolled only 32.6 percent of the students in 1960 and 31.1 percent in 1966.

TABLE 16

Admissions, graduations, and enrollments in schools of practical nursing, 1960 and 1966.

Geographic location	Number of programs		Enrollments		Admissions		Graduations	
	Oct. 1960	Oct. 1966	Oct. 1960	Oct. 1966	1959-1960	1965-1966	1959-1960	1965-1966
United States	661	1,081	21,633	36,729	23,060	38,755	16,491	25,688
SREB states	293	463	7,059	11,409	7,952	12,037	5,262	7,459
SREB states as a percentage of U. S.	44.3	42.8	32.6	31.1	34.5	31.1	31.9	29.0
Alabama	11	26	417	692	486	736	406	395
Arkansas	10	19	334	538	360	542	341	328
Florida	22	25	546	948	571	1,002	337	666
Georgia	23	38	400	728	375	896	232	463
Kentucky	11	13	223	448	324	446	193	397
Louisiana	13	19	407	504	454	575	257	301
Maryland	12	17	333	443	290	413	197	227
Mississippi	8	19	214	338	181	393	161	240
North Carolina	14	35	493	784	478	819	356	576
Oklahoma	10	14	361	460	336	439	252	221
South Carolina	11	19	147	275	185	340	92	274
Tennessee	9	10	490	866	720	918	583	680
Texas	115	152	1,984	2,872	2,453	3,219	1,408	1,860
Virginia	20	41	565	1,100	546	886	297	636
West Virginia	4	16	145	413	193	413	150	195

Sources: American Nurses' Association, Facts About Nursing, *1961, pp. 190-193; National League for Nursing,* State-Approved Schools of Nursing—LPN/LVN, 1967, *pp. 68-69.*

PROGRAMS TO PREPARE NURSES FOR LICENSURE AS RN'S

Of the three types of programs which prepare nurses for licensure as RN's—the diploma, associate degree, and bachelor's degree programs—diploma programs constituted 80 percent of these programs in the nation and 77 percent in the South in 1960. By 1966, diploma programs had decreased to the point where they represented 65 percent of the programs in the nation and 58 percent of those in the South.

Although the diploma programs are still the most numerous, the most rapid growth in recent years has been in the associate degree programs administered mainly by junior colleges. In 1960, associate degree programs represented six percent of the nursing programs in the South. By 1966, they represented 23 percent of the programs in the South and 32 percent of the 218 associate degree nursing programs in the nation.

Bachelor's degree programs have expanded, but at a somewhat slower rate. They constituted 17 percent of the South's programs in 1960 and 19 percent in 1966. The following table compares the numbers of programs in the three major categories in 1960 and 1966.

	NUMBER AND PERCENTAGE OF PROGRAMS			
Year	Total	Diploma	Associate Degree	Bachelor's Degree
1960	281 (100%)	218 (77%)	15 (6%)	48 (17%)
1966	305 (100%)	179 (58%)	69 (23%)	57 (19%)

The South follows the national trend of expanding associate and bachelor's degree programs and decreasing diploma programs. This can be seen in the following table, which covers the period between October, 1965, and October, 1966.

	UNITED STATES			SREB STATES		
TYPE OF PROGRAM	Number opened	Number closed	Net gain or loss	Number opened	Number closed	Net gain or loss
All types	57	25	+32	21	7	+14
Diploma	1	25	−24	1	7	− 6
Associate degree	44	0	+44	17	0	+17
Bachelor's degree	12	0	+12	3	0	+ 3

As is the case with practical nurse programs, the schools of nursing which prepare nurses for RN licensure in the South tend to have smaller enrollments per program than those outside the South. This is illustrated by the table below, which shows the number of nursing education programs in the South and in the nation, the total number of students enrolled in these programs, and the average enrollment per program. The figures on enrollment refer to the number of students in each program as of October 15, 1966.

Comparing the per-program enrollment in the nation and in the South, the programs in the nation average nine more students in each bachelor's degree program, 24 more in each associate degree program, and 30 more in each diploma program.

Enrollment figures show the total number of students enrolled in the school as of a given date, combining all classes. Enrollments in long programs—such as the four- or five-year bachelor's degree program—can therefore be expected to be higher than those in shorter programs—such as the one-year practical nurse programs or the two-year associate degree programs.

While enrollment figures between the different types of programs should not be compared, the comparisons for each type of program between the nation as a whole and the South indicate that the South averages fewer students per program than the programs outside the South. The significant enrollment variations between the nation and the South in the associate degree and diploma programs seem to merit further study.

One index of the quality of nursing education in a region is the extent to which schools of nursing are nationally accredited. As of January, 1967, the South lagged behind the nation in the percentage of nursing programs holding national accreditation. Only 47 percent of the South's programs were accredited, compared to 65 percent of all programs outside the South.[3]

The following table compares the percentages of bachelor's degree and diploma programs which are nationally accredited in the South and in the nation.

	PERCENTAGE NATIONALLY ACCREDITED (January, 1967)	
Type of program	Within SREB states	Remainder of United States
Diploma	58.7	76.4
Bachelor's degree	64.2	71.9

	TYPE OF PROGRAM								
	Diploma			Associate degree			Bachelor's degree		
Geographic Location	No. of programs	Enrollment	Enrollment per program	No. of programs	Enrollment	Enrollment per program	No. of programs	Enrollment	Enrollment per program
SREB states	179	16,256	91	69	3,713	54	57	8,628	151
Remainder of United States	618	74,398	121	149	11,625	78	153	24,453	160

Most of the accredited nursing programs in the South and in the nation are of the bachelor's degree and diploma type. Few associate degree programs have sought accreditation thus far. Some are too new and others are in junior colleges which do not favor applying for specialized program accreditation in addition to institutional accreditation. Less than 10 percent of all associate degree nursing programs in the nation were nationally accredited in January, 1967. At that time only three of the 69 associate degree programs in the South were nationally accredited. (See Table 17.)

TABLE 17

Number of programs which prepare graduates for licensure as registered nurses by national accreditation* status, January, 1967.

Geographic location	Total		Diploma		Associate degree		Bachelor's degree	
	Accredited	Not accredited	Accredited	Not accredited	Accredited	Not accredited	Accredited	Not accredited
United States	743	482	577	220	19	199	147	63
SREB states	145	160	105	74	3	66	37	20
SREB states as a percentage of U. S.	20	33	18	34	16	33	25	32
Alabama	13	2	11	1	0	1	2	0
Arkansas	4	2	4	0	0	0	0	2
Florida	8	17	5	0	0	15	3	2
Georgia	10	10	8	6	0	3	2	1
Kentucky	12	10	8	3	1	6	3	1
Louisiana	12	3	6	1	1	0	5	2
Maryland	16	9	13	4	0	5	3	0
Mississippi	2	14	1	4	0	9	1	1
North Carolina	10	30	7	17	0	9	3	4
Oklahoma	6	6	4	4	0	2	2	0
South Carolina	2	9	1	6	0	3	1	0
Tennessee	13	6	10	2	0	3	3	1
Texas	20	14	13	10	1	3	6	1
Virginia	11	20	9	13	0	4	2	3
West Virginia	6	8	5	3	0	3	1	2

Source: National League for Nursing, State-Approved Schools of Nursing—RN, 1967, *p. 102.*

**The term "national accreditation" refers to accreditation of programs by the National League for Nursing.*

STUDENTS ENTERING BEGINNING NURSING PROGRAMS

An important part of an analysis of nursing education is the number of new students entering programs in schools of nursing. These are reflected as "admissions" to nursing education programs and represent the rate of recruitment into the nursing profession.

In the period between 1960 and 1966, the South experienced an overall increase of 28 percent in admissions in the three types of programs that prepare nurses for licensure as RN's. When the admissions are examined for each type of program, wide variations can be seen. Bachelor's degree admissions increased by about 85 percent, associate degree admissions increased by 650 percent, and admissions to diploma programs decreased by more than nine percent. (See Table 18.)

The South varied considerably from the national pattern of admissions in 1966, when only 55.5 percent of all admissions to schools of nursing in the South was in diploma programs. This is a sharp drop from the 78.4 percent admitted to diploma programs in the South just six years earlier. During the same period, associate degree and bachelor's degree programs together more than doubled their percentage of admissions—raising it from 21.6 of the South's nursing students in 1960 to 44.5 percent in 1966. (See Table 18.)

In terms of the percentage of female high school graduates who enter programs to prepare for a nursing career, the South lags behind the nation. In 1966, the states outside the South admitted slightly more than five percent of their female high school graduates into nursing programs. In the South, only 3.5 percent entered nursing programs. The rate of recruitment in the South varies considerably from state to state, ranging from a low of 1.6 percent to a high of 4.9 percent. (See Figure 4.)

The South's problem of increasing the quantity of nurses is compounded by the fact that a lower percentage of students complete nursing programs in the South than do in the nation as a whole. While the proportion of students graduating from the three types of programs follows national trends (increasing percentages from the associate and bachelor's degree programs,

TABLE 18

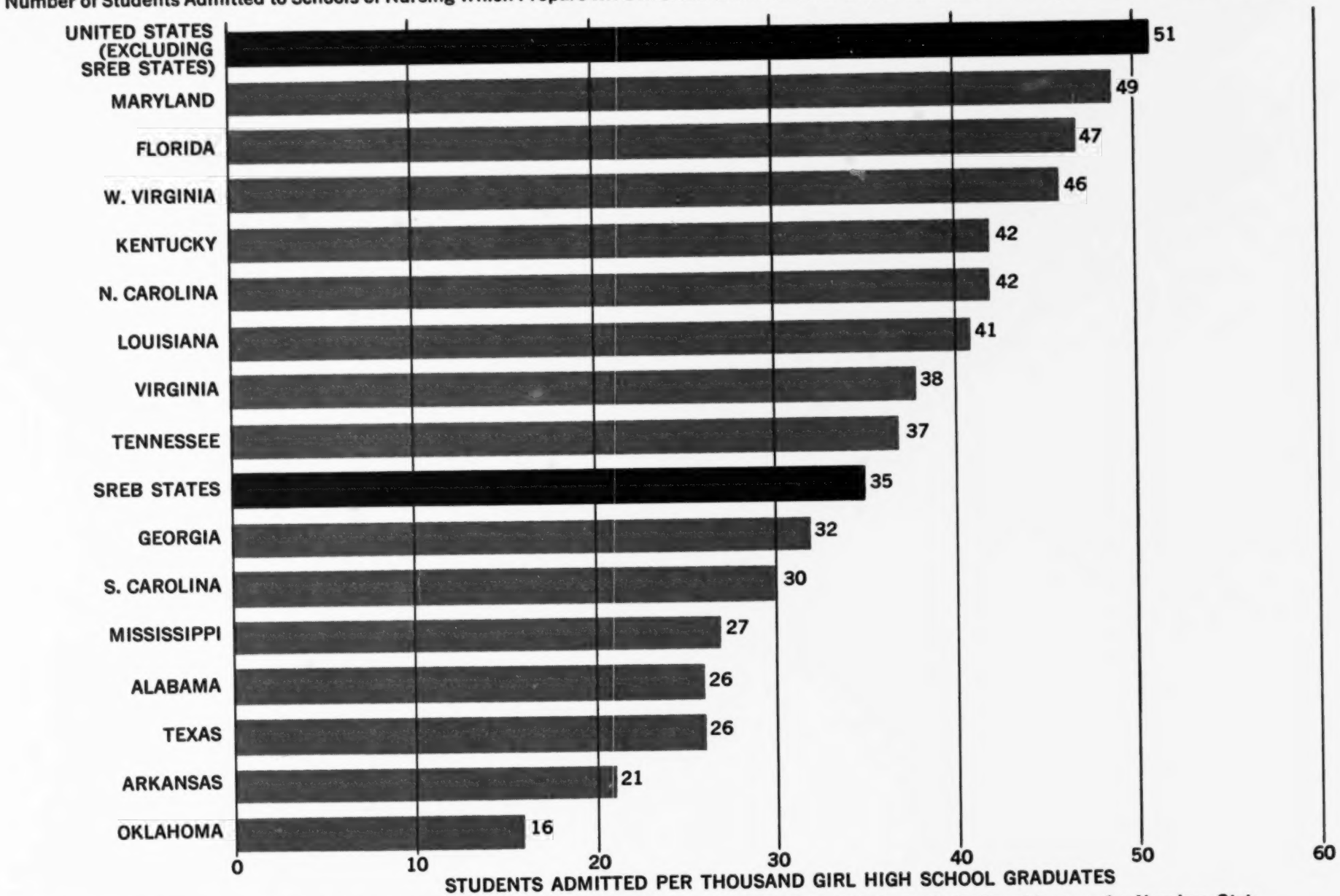
Admissions to nursing education programs which prepare RN's, SREB states, 1959-60 and 1965-66.

	1959-1960		1965-1966		
Type of program	Admissions	Percentage	Admissions	Percentage	Percent change
All programs	10,398	100.0	13,331	100.0	+ 28.2
Diploma	8,148	78.4	7,402	55.5	− 9.2
Associate degree	314	3.0	2,355	17.7	+650.0
Bachelor's degree	1,936	18.6	3,574	26.8	+ 84.6

Sources: National League for Nursing, State-Approved Schools of Nursing—RN, 1967, *p. 102; National League for Nursing,* State-Approved Schools of Professional Nursing, 1961.

FIGURE 4

Number of Students Admitted to Schools of Nursing Which Prepare RN's in SREB States in 1965-66 Per Thousand Girl High School Graduates in 1965



Sources: U. S. Department of Health, Education, and Welfare, *Digest of Educational Statistics—1966,* p. 49; National League for Nursing, *State-Approved Schools of Nursing—RN, 1967,* p. 103.

TABLE 19

Graduations from nursing education programs which prepare RN's, SREB states, 1959-60 and 1965-66.

Type of program	1959-1960 Graduations	1959-1960 Percentage	1965-1966 Graduations	1965-1966 Percentage	Percent change
All programs	5,810	100.0	6,727	100.0	+ 11.6
Diploma	4,742	81.6	4,702	69.9	− 0.9
Associate degree	126	2.2	662	9.8	+425.4
Bachelor's degree	942	16.2	1,363	20.3	+ 44.7

Sources: National League for Nursing, State-Approved Schools of Professional Nursing, 1961; *National League for Nursing,* State-Approved Schools of Nursing—RN, 1967, *p. 102.*

and decreasing percentages from the diploma programs—see Table 19) there seems to be a higher "drop out" rate in schools of nursing in the South than in the nation.

As the following table for the 1965-66 academic year indicates, the South admitted 21.6 percent of the nation's students to beginning programs in schools of nursing and graduated only 18 percent of the nation's nursing school graduates. There is no direct relationship between these two figures because of the varying lengths of the three types of programs.

GEOGRAPHIC LOCATION	Admissions 1965-1966	Graduations 1965-1966	Enrollments Oct. 15, 1966
United States	60,701	35,125	139,070
SREB states	13,331	6,727	28,597
SREB states as a percentage of the U.S.	21.6	18.0	20.6

One explanation could be that associate and bachelor's degree programs in the South are increasing admissions more rapidly than in the nation at large, and therefore the admission figures for 1965-66 reflect a larger percentage of students who would not graduate in a one-year period. Another explanation could be a higher drop-out rate, and this theory is given substantiation for the associate degree programs by a survey made in 1966.

The study showed that the drop-out rate of nursing students in associate degree programs was higher in the South than in other regions of the nation in 1964 and 1965.[4] No precise data are available for diploma or bachelor's degree programs, but these generally follow the nationwide trend of a 30 to 40 percent "drop-out" rate.

Further information about students in each of the three types of nursing programs is presented in Tables 20-23 for the nation, the South, and each of the 15 Southern states.

TABLE 20

Admissions, graduations, and enrollments in nursing programs which prepare registered nurses, SREB states, 1965-1966.

Geographic location	Admissions 1965-1966				Graduations 1965-1966				Enrollments Oct. 15, 1966			
	Total	Diploma	A. D.	B. S.	Total	Diploma	A. D.	B. S.	Total	Diploma	A. D.	B. S.
United States	60,701	38,904	8,638	13,159	35,125	26,278	3,349	5,498	139,070	90,651	15,338	33,081
Percentage, United States	100	64.1	14.2	21.7	100	74.8	9.5	15.7	100	65.2	11.0	23.8
SREB states	13,331	7,402	2,355	3,574	6,727	4,702	662	1,363	28,597	16,256	3,713	8,628
Percentage, SREB states	100	55.5	17.7	26.8	100	69.9	9.8	20.3	100	56.8	13.0	30.2
Alabama	629	431	40	158	410	351	0	59	1,526	1,075	32	419
Arkansas	270	202	0	68	113	97	0	16	529	363	0	166
Florida	1,509	338	886	285	675	218	282	175	2,542	812	1,164	566
Georgia	904	746	55	103	618	512	24	82	2,267	1,812	148	307
Kentucky	853	406	221	226	384	273	48	63	1,620	855	307	458
Louisiana	976	420	29	527	293	179	19	95	1,984	920	45	1,019
Maryland	1,181	763	61	357	614	491	0	123	3,020	1,809	147	1,064
Mississippi	384	138	210	36	182	85	74	23	810	319	365	126
North Carolina	1,528	858	223	447	745	556	31	158	3,320	1,833	354	1,133
Oklahoma	281	183	38	60	209	150	15	44	815	585	80	150
South Carolina	535	244	195	96	288	232	26	30	1,063	475	347	241
Tennessee	921	642	73	206	489	384	19	86	1,953	1,318	152	483
Texas	1,647	801	186	660	743	454	39	250	3,238	1,409	283	1,546
Virginia	1,054	762	44	248	609	478	31	100	2,606	1,760	137	709
West Virginia	659	468	94	97	355	242	54	59	1,304	911	152	241

Source: National League for Nursing, State-Approved Schools of Nursing—RN, 1967, *p. 103.*

TABLE 21

Admissions, graduations, and enrollments in diploma nursing programs, United States and SREB states, 1960 and 1966.

Geographic location	Admissions		Graduations		Enrollments, October 15	
	1959-60	1965-66	1959-60	1965-66	1960	1966
United States	40,013	38,904	25,188	26,278	94,812	90,651
SREB states	8,148	7,402	4,742	4,702	18,440	16,256
SREB states as a percentage of U. S.	20.4	19.0	18.9	17.9	19.5	17.9
Alabama	400	431	212	351	912	1,075
Arkansas	281	202	123	97	566	363
Florida	400	338	220	218	923	812
Georgia	729	746	414	512	1,814	1,812
Kentucky	464	406	291	273	1,144	855
Louisiana	353	420	214	179	820	920
Maryland	877	763	471	491	1,827	1,809
Mississippi	155	138	99	85	415	319
North Carolina	1,002	858	545	556	2,034	1,833
Oklahoma	390	183	208	150	806	585
South Carolina	513	244	294	232	1,069	475
Tennessee	690	642	404	384	1,621	1,318
Texas	644	801	486	454	1,595	1,409
Virginia	804	762	479	478	1,833	1,760
West Virginia	446	468	282	242	1,061	911

Sources: American Nurses' Association, Facts About Nursing, *1961, pp. 83, 86-88; National League for Nursing,* State-Approved Schools of Nursing—RN, 1967, *p. 103.*

TABLE 22

Admissions, graduations, and enrollments in associate degree nursing programs, United States and SREB states, 1960 and 1966.

Geographic location	Admissions		Graduations		Enrollments, October 15	
	1959-60	1965-66	1959-60	1965-66	1960	1966
United States	1,598	8,638	789	3,349	3,254	15,338
SREB states	314	2,355	126	662	742	3,713
SREB states as a percentage of U. S.	19.7	27.3	16.0	19.8	22.8	24.2
Alabama	—	40	—	—	—	32
Arkansas	—	—	—	—	—	—
Florida	141	886	37	282	267	1,164
Georgia	32	55	17	24	114	148
Kentucky	—	221	—	48	—	307
Louisiana	—	29	—	19	—	45
Maryland	—	61	—	—	—	147
Mississippi	14	210	4	74	65	365
North Carolina	21	223	8	31	50	354
Oklahoma	—	38	—	15	—	80
South Carolina	28	195	15	26	45	347
Tennessee	—	73	—	19	—	152
Texas	—	186	—	39	42	283
Virginia	78	44	45	31	131	137
West Virginia	—	94	—	54	28	152

Sources: American Nurses' Association, Facts About Nursing, *1961, pp. 83, 86-88; National League for Nursing,* State-Approved Schools of Nursing—RN, 1967, *p. 103.*

TABLE 23

Admissions, graduations, and enrollments in bachelor's degree nursing programs, United States and SREB states, 1960 and 1966.

Geographic location	Admissions		Graduations		Enrollments, October 15	
	1959-60	1965-66	1959-60	1965-66	1960	1966
United States	7,555	13,159	4,136	5,498	20,783	33,081
SREB states	1,936	3,574	942	1,363	5,069	8,628
SREB states as a percentage of U. S.	25.6	27.2	22.8	24.8	24.4	26.1
Alabama	81	158	44	59	253	419
Arkansas	39	68	17	16	87	166
Florida	148	285	80	175	397	566
Georgia	44	103	28	82	100	307
Kentucky	60	226	36	63	199	458
Louisiana	305	527	107	95	665	1,019
Maryland	196	357	102	123	575	1,064
Mississippi	18	36	11	23	45	126
North Carolina	235	447	124	158	672	1,133
Oklahoma	47	60	29	44	85	150
South Carolina	31	96	8	30	86	241
Tennessee	176	206	92	86	405	483
Texas	411	660	173	250	1,065	1,546
Virginia	117	248	80	100	316	709
West Virginia	28	97	11	59	119	241

Sources: American Nurses' Association, Facts About Nursing, *1961, pp. 83, 86-88; National League for Nursing,* State-Approved Schools of Nursing—RN, 1967, *p. 103.*

Two segments of the general population are easily identified because so few students from these groups enter schools of nursing. These two groups are men and Negroes. In view of the inadequate numbers of persons recruited into nursing schools, special attention is directed in the following section to men nursing students and Negro nursing students.

Data on men nursing students indicate that the South follows the general national trend in the proportion of men who enter schools of nursing. In 1966, men constituted 1.5 percent of all admissions to schools of nursing, and 1.6 percent of all students graduating from these programs in the South. In that year, the greatest percentage of admissions and graduations of men occurred in associate degree programs, where men represented 3.5 percent of the entering classes and 4.2 percent of the graduating classes. About one percent of the entering classes in diploma and bachelor's degree programs were male, and about one percent of the students graduated from these programs were male. (See Table 24.)

About three percent of the students admitted to practical nurse programs across the nation and in the South are men.

Despite recent emphasis across the nation on the expansion of educational opportunities for Negroes, not much progress is being made in the South in the number of Negroes admitted to schools of nursing. In the South, which has 57 percent of the nation's Negro population, only six percent of the students in nursing programs were Negroes in 1966. Nearly twice as many schools of nursing had Negro students admitted in 1966 as did in 1963, yet the total number of Negro students admitted was only slightly higher.

There were 692 Negro students admitted to 62 schools of nursing in the South in 1963—and these schools represented only 22.5 percent of the schools of nursing in the South. Other schools indicated that qualified Negro applicants would have been admitted had they applied.

TABLE 24

Admissions, graduations, and enrollments of men students in schools of nursing by type of program—SREB states, 1966.

Type of program	Total number of programs October 15, 1966	Percentage of programs enrolling one or more men	Percentage of total admissions 1965-1966	Percentage of total graduations 1965-1966	Percentage of total enrollment October 15, 1966
Totals	305	44.2	1.5	1.6	1.3
Diploma	179	33.5	.9	1.3	.9
Associate degree	57	75.4	3.5	4.2	3.4
Bachelor's degree	69	46.4	1.5	1.1	1.2

Source: National League for Nursing, unpublished data, 1967.

In 1966, 792 Negro students were admitted to 129 programs in the South. These represented 42 percent of the 304 schools of nursing that reported. The three-year comparison in the South shows that 67 more schools admitted Negroes, although total Negro admissions rose by only 100 students.

In 1966, as in 1963, bachelor's degree programs admitted a greater percentage of Negro students than did associate degree or diploma programs. Negroes represented 12.4 percent of all students admitted to bachelor's degree programs, 6.8 percent of those admitted to associate degree programs, and 2.9 percent of those admitted to diploma programs. There were 365 Negro graduates from 39 schools of nursing in the South in 1963, and 366 from 61 schools in 1966. Negroes represented 12.3 percent of all graduates from bachelor's degree programs, 5.7 percent of all graduates from associate degree programs, and 3.8 percent of all graduates from diploma programs.

	SREB STATES		UNITED STATES	
TYPE OF PROGRAM	Percentage admissions, 1966	Percentage graduations, 1966	Percentage admissions, 1966	Percentage graduations, 1966
Diploma	2.9	3.8	2.0	2.4
Associate degree	6.3	5.7	6.5	6.1
Bachelor's degree	12.4	12.3	4.8	4.0

There has not been any appreciable change in the proportion of Negro students enrolled in schools of nursing outside the South. With 11 percent of the nation's population composed of Negroes, only three percent of the students enrolled in the nation's nursing programs were Negroes in 1950, 1963, and 1966.

The following table shows the percentage of Negro students entering, continuing in, and graduating from the three types of schools of nursing in the South in 1966. The figures are totals reported by all schools, not just those admitting Negroes.

	ADMISSIONS			GRADUATIONS			ENROLLMENTS		
TYPE OF PROGRAMS	Total	Number of Negroes	Percentage of Negroes	Total	Number of Negroes	Percentage of Negroes	Total	Number of Negroes	Percentage of Negroes
ALL PROGRAMS	13,331	792	5.9	6,727	386	5.7	28,597	1,793	6.3
Diploma	7,402	212	2.9	4,702	180	3.8	16,256	463	2.8
Associate degree	2,355	159	6.9	662	38	5.7	3,713	267	7.2
Bachelor's degree	3,574	421	11.8	1,363	168	12.3	8,628	1,063	12.3

In the SREB states, Negro students are enrolled in 91 percent of the bachelor's degree programs, 61 percent of the associate degree programs, and 49 percent of the diploma programs. In the rest of the United States, schools with one or more Negro students represented 45 percent of the bachelor's degree programs, 65 percent of the associate degree programs, and 43 percent of the diploma programs. In LPN schools, Negroes represent 25 percent of the enrollment in the South and 18 percent of the enrollment in the nation.

POST-RN BACHELOR'S DEGREE PROGRAMS

Because the present system of nursing education offers several educational routes to an RN, a special group of students enrolled in bachelor's degree programs has not been mentioned thus far in the information related to bachelor's degree nursing education. These students have already become licensed as RN's, having completed either a hospital diploma or an associate degree program. Some of these RN students wish to complete a bachelor's degree program in nursing, often as preparation for public health nursing or other types of positions, or as the foundation for advanced study toward a master's degree.

In 1960, 33 colleges and universities in the South enrolled a total of 1,297 RN's who sought the bachelor's degree. Six years later, in 1965, 15 additional institutions had enrolled RN's, but the total enrollment for all schools declined to 1,028—a decrease of 269 students over a six-year span. The number of RN's receiving the bachelor's degree also declined, dropping from 327 in 1960 to 294 in 1966. This is despite the fact that about 20 percent more RN's were enrolled full-time in 1966 than in 1960. (See Table 25.)

It may be that this decline in the number of RN's graduating from bachelor's degree programs is a favorable trend and reflects better counseling of students in their initial selection of a nursing program which is consistent with their abilities and career goals. Students with potential for leadership may be entering bachelor's degree programs at the start rather than taking the longer and more expensive route of a hospital diploma program followed by later study toward a bachelor's degree. Throughout the nation, there has been a decrease in the number of RN students (graduates of associate degree and diploma programs) who enrolled in and graduated from bachelor's degree programs in nursing. Although almost 24 percent of the institutions which admitted these RN students was in the South, 12.6 percent of all the nation's students were enrolled—and 12.3 graduated—from the South's institutions with a bachelor's degree in nursing.

GEOGRAPHIC LOCATION	Number of institutions		Enrollments		Graduations	
	1960	1966	1960	1966	1960	1966
United States	131	202	9,609	8,168	2,520	2,386
SREB states	33	48	1,297	1,028	327	294
SREB states as a percentage of the U. S.	25.2	23.8	13.5	12.6	13.0	12.3

MASTER'S DEGREE AND DOCTORAL PROGRAMS IN NURSING

The master's degree is recommended by the nursing profession as a requirement for nursing positions in administration, teaching, and clinical nursing specialization. Master's degree programs in nursing in the South increased from eight in 1960 to 11 in 1966 and represented 19 percent of the nation's programs in 1960 (43) and 1966 (59). Although the South had 19 percent of the programs, it had only about seven percent of the enrollment and eight percent of the graduations. Recently, there has been some increase in both the enrollment and graduation percentage

TABLE 25

Number of full-time and part-time registered nurse students enrolled in and graduated from bachelor's degree programs in colleges and universities, SREB states, 1966.

State	Enrollments, October 15, 1966				Graduations, 1965-1966	
	Number of institutions reporting	Total	Full-time	Part-time	Number of institutions reporting	Number of graduates
SREB states	48	1,028	666	362	40	294
Alabama	2	39	29	10	2	30
Arkansas	1	1	1	—	1	9
Florida	3	75	52	23	3	28
Georgia	2	178	109	69	3	14
Kentucky	2	108	39	69	2	18
Louisiana	5	79	52	27	3	15
Maryland	2	42	38	4	2	6
Mississippi	1	6	5	1	1	9
North Carolina	8	119	107	12	7	45
Oklahoma	2	47	14	33	2	13
South Carolina	2	49	42	7	2	7
Tennessee	3	16	13	3	2	8
Texas	8	163	87	76	6	62
Virginia	6	85	66	19	3	27
West Virginia	1	21	12	9	1	3

Source: National League for Nursing, unpublished data, 1967.

in the South. In 1966, about 13 percent of the enrollment and 12 percent of all graduations in the nation were located in programs in the South.

GEOGRAPHIC LOCATION	Number of institutions 1960	1966	Enrollments 1960	1966	Graduations 1960	1966
United States	43	59	2,175	3,488	1,197	1,279
SREB states	8	11	150	441	85	156
SREB states as a percentage of the U. S.	19	19	7	13	8	12

The South currently leads the nation in the percentage of full-time students enrolled in master's degree programs. Southern schools report 86.8 of their master's degree students are studying full-time, compared to the national average of 79.3 percent. This growth in full-time enrollment may be due in part to increased financial support for graduate work from federal funds and other sources.

The enrollment varies widely among individual states and individual programs in the South. In 1966 one program had 226 master's degree students enrolled while another had an enrollment of two students. The next smaller program had nine students, and the next larger had 63. The average number of students per program was 40 in the South and 63 in the rest of the nation.

Five institutions in the nation offered doctoral programs in nursing in 1966, with a total of 189 students enrolled. None of these programs is in the South. However, some nurses are enrolled in doctoral programs in several institutions of higher education in the South. Figures on the number of nurses enrolled for study toward a doctorate are not available nationally or regionally.

In summary, the number of nursing education programs in the nation, the South, and in each of the SREB states in 1966 is shown in Table 26. Included are the number of practical nurse, diploma, associate degree, bachelor's degree, and master's degree programs.

FACULTY MEMBERS IN SCHOOLS OF NURSING

The success or failure of an education program is often directly related to its teaching staff—its student:faculty ratio and the quality of the faculty's educational preparation. In 1966, the South had 21 percent of the nation's schools of nursing, but only 19 percent of the nation's nurse-faculty. Although these schools have increased in number over the past six years, the number of nurse-faculty has not increased proportionately.

These and other data were gleaned from a nationwide survey of nurse-faculty members made in 1966. The survey revealed information on the number of nurses employed as faculty members in the various types of nursing education programs, the highest academic degrees held by the nurse-faculty, and the number of budgeted vacancies for nurse-faculty.[5]

Although 19 percent of the nation's nurse-faculty taught in nursing programs in the South, administrators of these programs reported 26 percent of the nation's budgeted vacancies. In every type of nursing program, schools in the South report budgeted vacancies above the national average. The distribution of the percentages of the nation's nurse-faculty teaching in the various programs in the South and the percentage of the nation's vacancies in these Southern programs is as follows:

	ALL PROGRAMS	TYPE OF PROGRAM			
		Practical nursing	Diploma	Associate degree	Bachelor's and master's degree
Percentage of U. S. nurse-faculty teaching in SREB states	19.2	20.6	17.0	20.4	22.9
Percentage of U. S. nurse-faculty budgeted vacancies in SREB states	25.7	32.7	20.0	45.6	32.4

Responses from the survey not only gave information on the numbers of vacancies in each type of program, they also indicated which of the major clinical areas—medical-surgical, maternal-child health, psychiatric, and public health nursing—had these vacancies.

The largest number of vacancies reported by schools in the South was in medical-surgical nursing. It had twice as many vacancies as maternal-child health, four times as many as psychiatric, and more than 10 times as many as public health nursing. This condition was particularly severe in diploma programs, where the medical-surgical nursing vacancies represented more than half of the total number.

CLINICAL CONTENT AREA	ALL PROGRAMS	DIPLOMA	ASSOCIATE DEGREE	BACHELOR'S DEGREE
All vacancies	356	200	52	104
Medical-surgical nursing	166	117	15	34
Maternal-child nursing	82	38	17	27
Psychiatric nursing	43	11	11	21
Public health nursing	16	1	0	15
Other	49	33	9	7

TABLE 26

Number of various types of nursing education programs in the United States and the SREB states, 1966.

Geographic location	Type of program				
	Practical nursing	Programs which prepare registered nurses			Master's degree
		Diploma	Associate degree	Bachelor's degree*	
United States	1,081	797	218	210	59
SREB states	463	179	69	57	11
SREB states as a percentage of U. S.	42.8	22.5	31.7	27.1	18.6
Alabama	26	12	1	2	1
Arkansas	19	4	—	2	—
Florida	25	5	15	5	1
Georgia	38	14	3	3	1
Kentucky	13	11	7	4	—
Louisiana	19	7	1	7	1
Maryland	17	17	5	3	1
Mississippi	19	5	9	2	—
North Carolina	35	24	9	7	3
Oklahoma	14	8	2	2	—
South Carolina	19	7	3	1	—
Tennessee	10	12	3	4	1
Texas	152	23	4	7	2
Virginia	41	22	4	5	—
West Virginia	16	8	3	3	—

**Does not include separate bachelor's degree programs for RN's.*

Sources: National League for Nursing, State-Approved Schools of Nursing—LPN/LVN, 1967, *pp. 65-69; National League for Nursing,* State-Approved Schools of Nursing—RN, 1967, *pp. 102-103; National League for Nursing, unpublished data, 1967.*

Despite continuing shortages of nurse-faculty, there has been a general upward trend in the educational preparation of nurse-faculty in the South. The following table shows the percentage distribution of nurse-faculty in the South in 1962 and 1966 by the highest earned academic degree.

	HIGHEST EARNED ACADEMIC DEGREE				
YEAR	Associate	Bachelor's	Master's	Doctorate	None
1962	2.6	39.4	25.0	0.9	32.1
1966	1.4	38.8	31.4	2.0	26.4

Considering that a master's degree is the recommended professional preparation for teaching, progress from 1962 to 1966 is denoted by the increased percentage of nurse-faculty in the South who held master's and doctoral degrees. Conversely, a smaller percentage held lower degrees, or no degrees, in 1966 than did in 1962.

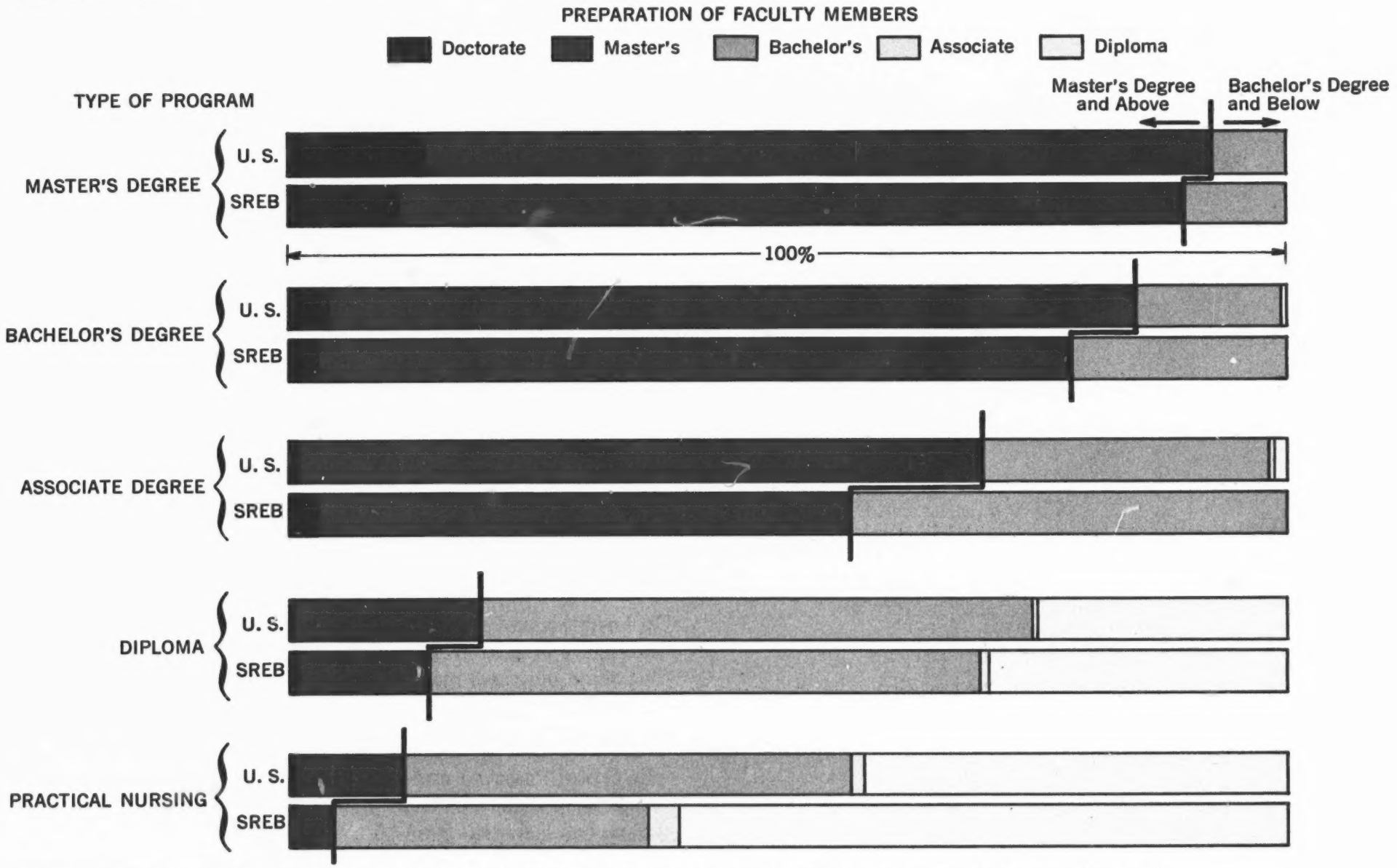
Figure 5 compares the preparation of faculty members in the South and in the United States for each type of nursing program. The following observations can be made from this graph:

- In diploma and LPN programs, a greater percentage of nurse-faculty in the South were teaching without degrees than in the nation.
- In the associate degree and diploma programs, a greater percentage of nurse-faculty in the South held doctorates than in the nation.
- In bachelor's degree programs in the South, the percentage of nurse-faculty holding doctorates and master's degrees is somewhat less than in the nation, but all had at least a bachelor's degree.
- Educational preparation of nurse-faculty teaching in master's programs in the South equaled the nation in the percentage of nurse-faculty holding the master's degree—but in the percentage holding the doctorate, the South was 2.5 percent below the national average.

Data from all types of programs combined show that the South is below the national average by 5.8 percent in the proportion of faculty members holding the master's degree, and 5.0 percent above the national average in the proportion of nurse-faculty with no degree.

FIGURE 5

Preparation of Full-Time Nurse-Faculty Members in Schools of Nursing by Percentages in Various Types of Programs, United States and SREB States, January, 1966



Sources: National League for Nursing, unpublished data, 1966, and National League for Nursing, *Nurse-Faculty Census—1966,* p. 4.

SECTION FOUR

Summary

In 1966, the South averaged a ratio of 198 nurses to 100,000 population. National goals for 1975 projected needs for 450 nurses per 100,000 population. At the present rate of production of nurses, and in the face of an expanding population, by 1975, the South's supply of nurses may drop to 185 nurses per 100,000 population. For the region to reach a conservative goal of 300 nurses per 100,000 population would require that graduation from schools of nursing be increased by 1975 to nearly four times the number graduated in 1966.

The reasons for the shortage are many and not entirely understood. The demands for workers in other fields requiring highly skilled and professional people and the traditionally low salaries of nurses are probably major deterrents to recruitment into nursing. These factors also probably contribute to nurses withdrawing from employment after graduation.

Nurses are employed in many types of positions and in many agencies: hospitals, nursing homes, and other institutions; nursing education programs; industries; public health agencies and schools; and other agencies. Some are privately employed.

Hospitals, which employ the largest number of nurses, reported in 1966 that they needed 22,000 more nurses and 12,000 more practical nurses. In the South a larger proportion of nursing care in hospitals is given by practical nurses.

In hospitals and public health agencies where large numbers of nurses are employed, there are not only vacancies in positions, but some positions may be filled with nurses who do not have the educational preparation for the levels of positions they hold.

Nurses for the region are educated in nursing programs of various types. Practical nurse programs have nearly doubled since 1960. In the last six years, the number of associate degree programs has increased from 15 to 69. Bachelor's degree programs have increased from 48 to 57. Hospital diploma programs have

decreased from 218 to 179. These changes have been accompanied by comparable changes in the admissions of students to these programs. The total number of nurses graduated from these three types of programs continues to increase, but not enough to keep pace with the rise in population.

The rate of recruitment of students into nursing schools is lower in the South than in other regions of the nation. Schools tend to enroll smaller numbers of students per program and proportionately fewer programs are nationally accredited.

Men constitute less than two percent of the students admitted and graduated from schools of nursing which prepare for licensure as RN's.

Nationally about three percent of nursing students are Negro, and there has been little change since 1950. In the South, nearly six percent of the students are Negro and the percentage of Negro graduates ranged in 1966 from over 12 percent in bachelor's degree programs to less than four percent in diploma programs. About 25 percent of students in practical nurse programs are Negro.

Since 1960, there have been increases in the number of master's degree programs in nursing and in the number of graduations of nurses with master's degrees which prepare them for teaching and administrative positions.

Schools of nursing in the South tend to have proportionately more vacancies in nurse faculty positions and faculty members tend to have less educational preparation for teaching.

If the shortage of nurses in the region is to be overcome, this report provides evidence that immediate, long-range, and vigorous planning for nursing education is required. From this report emerge several questions which warrant further consideration as planning is begun:

- How can national and regional goals for numbers and educational preparation of nurses be related to the specific needs of communities and states?
- What conditions tend to increase withdrawal of nurses from active practice? Can these be changed or overcome?
- Is the educational preparation of nurses and practical nurses commensurate with their job responsibilities?
- Can employers use nurses more efficiently?
- What are the barriers to recruiting more students into schools of nursing? How can these be overcome?
- What should be the balance of types of nursing education programs towards which planning should be directed?
- How can the needed quality and quantity of nurses with preparation for teaching, administration, and other top positions best be assured?

It is hoped that communities and states will begin to study these questions and others as they plan toward meeting their needs for nurses.

Appendix

APPENDIX A

Notes to Section One

1. Throughout this report, the terms "South" and "Southern" refer to the 15 states which are members of the Southern Regional Education Board (SREB) interstate compact. These states are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia.

2. National League for Nursing, *Nurses for a Growing Nation* (New York, NLN, 1957), pp. 8-9.

3. *Ibid.*, p. 7.

4. In Tables 1, 2, and 3, the supply of employed nurses is based on an actual count of nurses made by the American Nurses' Association in 1962. These tables also show, on a year-by-year basis, the actual or estimated number of graduates from schools of nursing in the region and the estimated annual attrition—the number of nurses who will drop out of the work force during each year. The last column shows the difference between the graduations and attrition, or the net additions to the nurse supply for each year. This net increase is added to the estimated number of active nurses (in the first column), which then becomes the number of active nurses estimated for the next succeeding year. The rate of nurses per 100,000 population has been computed at four- or five-year intervals.

5. For additional information about these programs, the characteristics which differentiate them from each other, and the expectations of nurse graduates from them, the reader is referred to publications of the National League for Nursing, 10 Columbus Circle, New York, New York 10019.

Notes to Section Two

1. U. S. Department of Health, Education, and Welfare, Public Health Service, *Health Manpower Source Book, Section 2, Nursing Personnel* (Washington, D.C., U.S. Government Printing Office, 1966), pp. 86-87.

2. U.S. Department of Health, Education, and Welfare, Public Health Service, Nursing Homes and Related Facilities Branch, unpublished data, 1967.

3. American Nurses' Association, *Facts About Nursing* (New York, ANA, 1967), p. 27.

4. Mary L. Brown, *Occupational Health Nursing* (New York, Springer Publishing Co., 1956), p. 132.

Notes to Section Three

1. U.S. Department of Health, Education, and Welfare, Public Health Service, *Toward Quality in Nursing—Needs and Goals* (Washington, D.C., U.S. Government Printing Office, 1963), p. 19.

2. U.S. Department of Health, Education, and Welfare, Public Health Service, Division of Nursing, unpublished data estimated as of April, 1967.

3. The National League for Nursing is the accrediting agency recognized by the National Commission on Accrediting to survey and accredit nursing education programs.

4. Harold Rowe and Hessel H. Flitter, "Junior Colleges Hold Their Students." *Nursing Outlook*, Vol. 15 (February, 1967), pp. 35-37.

5. National League for Nursing, *Nurse-Faculty Census—1966* (New York, NLN), pp. 2-12.

APPENDIX B

Annotated References

American Hospital Association, *Hospitals: Guide Issue*, Part II (August, 1967). 660 pp.

An encyclopedic history of health care institutions, health organizations, schools of nursing and the allied health professional fields by states. Includes a summary of national hospital statistics and information about each listed hospital such as administrative control, financial support, type, size and average daily census. Issued annually.

American Nurses' Association, *Facts About Nursing*. New York, ANA, 1967. 256 pp.

Facts about nursing and nursing education from a variety of sources. Includes statistics on nurse manpower, estimates of need, salaries and employment conditions, and sources of financial assistance to nursing education.

American Nurses' Association, *The Nation's Nurses*. New York, ANA, 1965. 37 pp.

A report of a 1962 inventory of nurses throughout the nation. Data were obtained from nurse-registration information in each of the various jurisdictions of the nation. Gives numbers of nurses employed and unemployed in each state and some of the demographic characteristics of nurses.

American Nurses' Association, *Statistical Digest No. 21*. New York, ANA, 1967. 17 pp.

Contains current information on salaries of nurses in various occupational fields. Issued periodically.

National League for Nursing, *College Education: Key to a Professional Career in Nursing*. New York, NLN, 1967. 15 pp.

Gives detailed information about NLN accredited baccalaureate degree programs such as minimum educational requirements for entrance, length of program, living arrangements, and approximate cost to student. Published annually.

National League for Nursing, *Masters Education: Route to Opportunities in Modern Nursing*. New York, NLN, 1967. 15 pp.

Lists NLN accredited master's degree programs as to admission requirements, thesis requirement, housing availability, possibility of part-time study, the curriculum offered, clinical or functional emphases, usual length of curriculum and approximate cost. Published annually.

National League for Nursing, *Nurse-Faculty Census—1966*. New York, NLN. 12 pp.

Results of a biennial survey of nurse-faculty members in all of the types of nursing education programs. Gives counts of full- and part-time nurse faculty by field of teaching and highest earned academic degree. Includes number of budgeted vacancies. Data are presented by region and nationally.

National League for Nursing, *Nurses for a Growing Nation*. New York, NLN, 1957. 31 pp.

A prediction of number of nurses needed for the "next fifteen years" to meet limited goals of nursing service. A forerunner of later publications on nurse supply, needs, and prediction studies. Includes supply and demand factors and attrition rates among nurse practitioners.

National League for Nursing, *Some Statistics on Baccalaureate and Higher Degree Programs in Nursing—1966*. New York, NLN, 1967. 10 pp.

Furnishes data on baccalaureate, master's and doctoral programs for registered nurses. Includes enrollment and graduation statistics and numbers of programs by region and nationally. One section lists number of students receiving financial assistance from various federal sources.

National League for Nursing, *State-Approved Schools of Nursing LPN/LVN—1967*. New York, NLN. 72 pp.

A history of all state-approved schools of practical or vocational nursing. Includes administrative control, financial support, length of program, admissions, enrollments, and graduation statistics. Issued annually.

National League for Nursing, *State-Approved Schools of Nursing RN—1967*. New York, NLN. 107 pp.

A listing of all three types of state-approved schools which prepare registered nurses. Includes new and closed programs, data on student admissions, enrollments, and graduations; the name and address of each school, its administrative control and type of financial support.

U.S. Department of Commerce, Bureau of the Census, *Statistical Abstract of the United States—1967*. Washington, D.C., Government Printing Office. 1050 pp.

A compilation of data from federal, non-federal agencies, and international organizations dealing with the economic, political and social structure of the United States. Contains population projections and trends.

U.S. Department of Commerce, Bureau of the Census, *Pocket Data Book, USA, 1967*. Washington, D.C., Government Printing Office. 370 pp.

Presents statistics related to the educational, health, welfare, social, political and economic aspects of the nation. Includes colored graphs and tables. Issued biennially.

U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics, *Health Resources Statistics: Health Manpower, 1965*. Washington, D.C., Government Printing Office. 182 pp.

Statistical information on thirty-four different health related occupations. Data are presented from a variety of sources.

U.S. Department of Health, Education, and Welfare, Public Health Service, National Center for Health Statistics, *Employees in Nursing and Personal Care Homes: Number, Work Experience, Special Training, and Wages—May-June, 1964*. Washington, D.C., Government Printing Office, 1967. 36 pp.

Reports numbers and characteristics of nursing personnel in nursing homes and related facilities. Includes data on salaries, years of experience of workers, and rates of turnover of employees.

U.S. Department of Health, Education, and Welfare, Office of Education, *Digest of Educational Statistics*. Washington, D.C., Government Printing Office, 1966. 124 pp.

A collection of data on education from kindergarten through graduate schools. Includes numbers of schools, teachers, students, retention of students, financing of education and research. Contains an entire section on higher education. Issued annually.

U.S. Department of Health, Education, and Welfare, Public Health Service, Health Service Research Study Section, *Research into Manpower for Health Service, 1966.* Washington, D.C., Government Printing Office. 181 pp.

One of a series of papers commissioned by the Public Health Service dealing with research into manpower for health service, its accomplishments and possible future pursuits. Shortages in the health field are examined from several points of view.

U.S. Department of Health, Education, and Welfare, Public Health Service, *Health Manpower Source Book. Section 2, Nursing Personnel.* Washington, D.C., Government Printing Office, 1966. 113 pp.

Information on nurse manpower needs and resources. Includes trend data by states, limitations of various manpower surveys, projections of professional nurse supply. Gives statistics on practical nurses, aides, orderlies and attendants in hospitals.

U.S. Department of Health, Education, and Welfare, Public Health Service, *Nursing Homes and Related Facilities: Fact Book.* Washington, D.C., Government Printing Office, 1963. 177 pp.

Facts about numbers and characteristics of nursing homes and related facilities, state licensure programs, population and utilization of health services in these institutions.

U.S. Department of Health, Education, and Welfare, Public Health Service, *Toward Quality in Nursing—Needs and Goals.* Washington, D.C., Government Printing Office, 1963. 73 pp.

The report of the Surgeon General's Consultant Group on Nursing. Richly illustrated with charts and graphs. Sets forth goals and projected supply of nurses needed for adequate nursing service. Includes both quantitative and qualitative needs in nursing.

U.S. Department of Labor, *Employment Service Review: Health Manpower,* Vol. 3, No. 11 (November, 1966), 94 pp.

Published monthly. This issue of the Employment Service Review is devoted entirely to health manpower. Contains a statement by President Johnson made on September 29, 1966 relative to major legislation to improve and expand resources in health manpower and articles on various aspects of manpower needs in the health field and some ideas for easing shortages.

Other References

Hudson, Helen and Lester, M. R., "Nurses in Public Health." *American Journal of Nursing,* Vol. 65 (April, 1965), pp. 103-107.

Hudson, Helen and Levine, Eugene, "More Nurses Now Have College Degrees." *Nursing Outlook,* Vol. 13 (October, 1965), pp. 31-33.

Kissick, William L., "Forecasting Health Manpower Needs." Part I. *Hospitals,* Vol. 41 (September 16, 1967), pp. 47-51. Part II. Vol. 41 (October 1, 1967), pp. 76-78.

Levine, Eugene, "Some Answers to the Nurse Shortage." *Nursing Outlook,* Vol. 12 (March, 1964), pp. 30-34.

Levine, Eugene, Siegel, S., and Testoff, A., "The Part-Time Nurse." *American Journal of Nursing,* Vol. 64 (January, 1964), pp. 88-89.

Yett, Donald E., "The Supply of Nurses, An Economist's View." *Hospital Progress,* Vol. 46 (February, 1965), pp. 88-102.

APPENDIX C

The SREB Nursing Education Project

The Southern Regional Education Board was established by interstate compact as a public agency of 15 member states cooperating to improve higher education. The Board works with state governments, academic institutions, and other agencies concerned with the field of education.

Board membership consists of the governor of each compact state and four other persons appointed by him. One must be a state legislator and one an educator.

In addition to conducting cooperative programs across state lines aimed at providing better graduate, professional, and technical education in the member states, SREB serves as an information center on activities and developments affecting higher education, provides consultant services to states and institutions, and promotes or conducts studies of significant problems in higher education.

This publication is produced as a part of SREB's project in nursing education, directed by Helen C. Belcher. The project, begun in 1962 under a grant from the W. K. Kellogg Foundation, was extended in 1966 for another five-year period. The project is especially concerned with nursing education in college-sponsored programs leading to associate, bachelor's, and master's degrees in nursing.

The SREB Council on Collegiate Education for Nursing was formed in 1963 to advise on regional activities and in 1967 included representatives from 110 colleges and universities.

The Council meets twice a year to study problems of nursing education. Other activities proposed by the Council have included conferences, workshops, committee work and publications in such areas as graduate education, continuing education, and uses of new instructional media, especially television, in nursing education.

The Council has periodically studied data about the supply and demand for more nurses in the region. It has recognized the responsibility of college-sponsored nursing programs to increase enrollments in nursing programs as rapidly as is consistent with maintaining an acceptable quality of instruction and producing competent nurses. The Council includes representatives from associate degree nursing programs which prepare technical nurses. Graduates of these programs will supplement the ranks of nurses who care for patients. The Council also includes representatives from bachelor's and master's degree programs. Graduates of these programs include experts in patient care as well as nurses prepared for teaching students and administering nursing services. All members of the Council share concern for increasing the numbers of qualified nurse faculty members who are essential to improving the quality of teaching and expanding enrollments in schools of nursing.